Eyes in the Sky

Also Inside –

Bringing Japanese Religion and Culture to Career

Finding Fortune

Sunny’s Healing Power
Greetings From the Dean to Our Alumni and Friends

Dear Friends and Alumni,

We are enjoying another year of excitement and change at WMU, as we welcome new students and new senior leaders to campus, including Kristen DeVries, vice president for development and alumni relations and Jeffrey Breneman, vice president for government relations. The national and global impact of our college continues to expand; in each of the last three years we have increased the enrollment of out-of-state and international students in our outstanding programs. Our students and faculty will soon benefit from the recently announced Dunbar Hall renovation, which promises to be truly transformative. The renovation will be supported by a state capital outlay of $30 million together with $10 million in funding to be raised by the University. In 2018-19, more than 17,000 students in 605 course sections were enrolled in a class taught in a welcoming, beautiful setting equipped with modern technology and classroom configurations to support innovative, inclusive and active-learning.

In this issue of our College of Arts and Sciences Magazine we provide just a glimpse of the remarkable work our students, staff and faculty do every day to support our mission of learning and discovery in the humanities, social sciences and sciences. We are proud of new programs and scholarship that are expanding the application of technologies like drones and geographic information systems to better understand and address critical public health and environmental problems. Our faculty are providing opportunities for our students to become engaged global citizens through our many unique study abroad programs; in 2019-20 alone, our faculty will lead study abroad programs in more than a dozen countries. And closer to home, our faculty and students are making an impact in our local community, using insights from cutting-edge social sciences research to bring trauma-informed care to children and others with Sunny, a therapy dog.

Enjoy!

Carla Koretsky, Ph.D.,
Dean, College of Arts and Sciences

The College of Arts and Sciences Strategic Plan

GUIDING PRINCIPLES

Our Mission
Our mission is to ignite and sustain a passion for learning and discovery in the humanities, social sciences and sciences, to help students, staff and faculty succeed in life and contribute to the betterment of our communities, from local to global.

Our Vision
Our vision is to achieve excellence in all aspects of learning and discovery across the humanities, social sciences and sciences while fostering a climate of intellectual freedom, diversity and inclusion.

OUR CORE VALUES

Collaboration
We promote an atmosphere in which staff, faculty, students and community collaborate in their discovery, learning and engagement.

Creativity
We cherish intellectual vitality and innovation, driven by curiosity and critical thinking.

Equity
We are committed to an inclusive and equitable community comprised of diverse faculty, staff and students.

Integrity
We seek to operate in an environment that features accountability, transparency and respect.

Intellectual Freedom
In a spirit of civility, we value intellectual freedom and the open exchange of ideas in our inquiry, discovery and learning.

Financial Sustainability
We work to be financially accountable and viable through sustainable operations, programs and outcomes.

Student Success
We center students’ needs in our academic planning, policies and programs to enable learners to meet their educational goals.

Features

Arts and Sciences News

Leaders recognized as notable women in STEM
WMU only Michigan university among finalists in NSF Idea Machine competition

And more –

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WMU launches UAV certificates in geological and environmental sciences and geography

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Roger Steininger, B.S. ‘64, has unearthed some of the world’s most significant gold and mineral discoveries

Sunny’s Healing Power

Dr. Angela Moe and her therapy dog Sunny are bringing comfort to those who need it most

Drones in Geological and Environmental Sciences

Dr. Mine Dagen brings new technique to groundwater research

Plus – Willis F. Dunbar and Dunbar Hall
Guiding organizations through spatial data

And more –

Connect With Us!
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On the Cover
Drone certificate program takes flight

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Connect With Us!
Dr. Irma López has been awarded more than $1.1 million in external grants from various agencies, including the National Science Foundation, U.S. Department of Energy, and the American Chemical Society. These grants include a prestigious NSF CAREER Award. And in 2014, she was selected as the winner of an international award for distinguished service to her profession by the Geochemical Society.

In fall 2019, Koretsky will implement a cohort model to support STEM students in the College of Arts and Sciences. This evidenced-based support structure is designed to decrease the achievement gaps in retention and four-year graduation rates between majority students and underrepresented students, including minorities and women.

“Globaly, we face critical environmental and technical challenges that will only be solved by fully employing the creativity and talent of the next generation of potential scientists,” she says.

Cousins named American Council on Education Fellow

Dr. James Cousins, associate dean in the College of Arts and Sciences, has been named a Fellow of the American Council on Education (ACE) for 2019-20.

The ACE Fellows program strengthens institutions and leadership in American higher education by preparing faculty and staff for senior positions in college and university administration. Fellows are nominated by senior administration of their institutions and selected after a rigorous application process.

Cousins is one of just 36 fellows selected this year and will serve at Florida Gulf Coast University. The ACE program, in which participants work with executives from other institutions, is widely regarded as a stepping stone to top leadership positions in higher education. More than 80 percent of fellows have gone on to serve as senior leaders of colleges and universities.

2018/19 New Western Michigan University Senior Leadership

WMU leaders recognized as ‘notable women in STEM’

Dr. Terri Goss Kinzy and Dr. Carla Koretsky have been recognized as 2019 Notable Women in STEM by Crain’s Detroit Business. The publication cites their leadership in the workplace and community, mentorship of others, and accomplishments in teaching, research and administration.

“I decided to pursue science because of my desire to help solve global environmental problems, especially those related to issues like clean water and air,” Koretsky says.

Dr. Irma López Alfredo during fall 2019, Koretsky will implement a cohort model to support STEM students in the College of Arts and Sciences. This evidenced-based support structure is designed to decrease the achievement gaps in retention and four-year graduation rates between majority students and underrepresented students, including minorities and women.

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WMU president elected to prestigious American Academy of Arts and Sciences

President Edward Montgomery was elected to the prestigious American Academy of Arts and Sciences in April. He joins former first lady Michelle Obama and more than 200 others recognized for outstanding achievement in academia, the arts, business, government and beyond.

Montgomery, who has just completed his second year as WMU’s president, is a nationally renowned labor economist who has had a distinguished career in academia and at the highest levels of U.S. government, having held key positions during the Clinton and Obama administrations.

“I am deeply honored by my election to the American Academy of Arts and Sciences,” Montgomery says. “To be numbered among such an august and accomplished group of individuals is incredibly humbling.”

With his election, Montgomery joins a distinguished list of fellows. Such esteemed individuals as founding father Benjamin Franklin, poet Ralph Waldo Emerson and civil rights icon Martin Luther King Jr. are among those who have been elected to the academy over the centuries.

The academy was founded in 1780 by John Adams, John Hancock and others who believed the new republic should honor the achievements of individuals. “It is an incredible honor to be elected to the American Academy of Arts and Sciences,” Montgomery says.

KINZY

Kinzy is vice president for research at WMU and professor of biological sciences in the College of Arts and Sciences. She is internationally known for her work in the areas of gene expression and protein synthesis.

Kinzy says her love of science started early, and she’s a strong advocate for her work in the areas of gene expression and protein synthesis.

WMU part of $2.3 million program that boosts diversity in economics

WMU’s Department of Economics once again joined Michigan State University this summer in offering an innovative program designed to increase the diversity of doctoral degree recipients in economics.

The American Economic Association’s Summer Training Program and Scholarship Program offers talented undergraduates from diverse backgrounds the opportunity to develop their math, technical and research skills to meet the challenging demands of doctoral programs.

Funded by more than $2.3 million in grants from the National Science Foundation and other organizations, the summer program has been offered at various universities since 1972, including Yale, Duke and the University of California, Berkeley. The two-month residential program takes place at MSU’s campus in East Lansing and is slated to be hosted by Western and MSU until at least 2020.

“Preparing a diverse pool of students for the rigors of graduate school in economics is an initiative we are proud to support,” says Dr. Christine Moser, WMU professor of economics, who serves as associate director of the summer program. Dr. Don Meyer, also a professor of economics at WMU, serves as an instructor in the program, with a number of WMU graduate students serving as teaching fellows.

The summer program aims to boost diversity in the field by offering students substantial preparation for high-level graduate work in economics and related fields. According to the AEA, some 20 percent of all doctorates awarded to minority scholars in economics in the last two decades can be attributed to the summer program.

Koretsky is dean of the College of Arts and Sciences and has served as a faculty member in the Department of Geological and Environmental Sciences and the Institute of the Environment and Sustainability since 2000. An active researcher, she focuses on aqueous geochemistry and biogeochemistry, seeking to integrate field, laboratory and modeling studies of mineral-water-biological interactions near the Earth’s surface.

“I decided to pursue science because of my desire to help solve global environmental problems, especially those related to issues like clean water and air,” Koretsky says.

She has been awarded more than $1.1 million in external grants from such agencies as the National Science Foundation, U.S. Department of Energy and the American Chemical Society. Those grants include a prestigious NSF CAREER Award. And in 2014, she was selected as the winner of an international award for distinguished service to her profession by the Geochemical Society.

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Environmental Sciences and the Institute of the Environment and

Koretsky is dean of the College of Arts and Sciences and has served

in funding on various projects from the National Institutes of Health,

biochemistry as well as pediatrics. “I think kids from all backgrounds

have a natural interest in science, we just need to encourage them to

biochemistry as well as pediatrics. “I think kids from all backgrounds

to explore,” says Kinzy, who came to WMU in early 2018 from Rutgers

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Kinzy says her love of science started early, and she’s a strong advocate

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With his election, Montgomery joins a distinguished list of fellows. Such esteemed individuals as founding father Benjamin Franklin, poet Ralph Waldo Emerson and civil rights icon Martin Luther King Jr. are among those who have been elected to

the academy over the centuries.

The academy was founded in 1780 by John Adams, John Hancock and others who believed the new republic should honor exceptionally accomplished people and

engage them in advancing the public good. Others elected to the new class include artist Mark Bradford, Yale University economist Dr. Xiaohong Chen, Purdue University President and former Indiana

Gov. Mitchell E. Daniels Jr., author Jonathan Franzen and Howard Hughes Medical Institute cell biologist Dr. Jennifer Lippincott-Schwartz. The new class will be

inducted at a ceremony in Cambridge, Massachusetts, this October.

Montgomery was named WMU’s ninth president on Aug. 1, 2017. He came to WMU

from Georgetown University, where he had served as founding dean and professor of economics at the McCourt School of Public Policy.

During a more than 35-year academic career, he has held faculty positions at Carnegie Mellon and Michigan State universities as well as at the University of

Maryland, winning teaching awards some five times over the years. During President William Clinton’s administration, he held a number of positions, including

chief economist and deputy secretary of the U.S. Department of Labor. During

President Barack Obama’s administration, Montgomery was a member of the president’s auto task force and led the interagency White House Council for Auto

Communities and Workers.

As WMU’s president, Montgomery has launched initiatives focused on student

success, revitalize the South campus neighborhood, the development of a new

budget model impacting all areas of campus, and the implementation of the revised

core curriculum, WMU Essential Studies. As part of his commitment to helping

students complete their studies, he also implemented a targeted grant program to

assist financially at-risk students.
**Department of Geography earns national excellence award**

The American Association of Geographers has given its 2019 Award for Program Excellence to WMU’s Department of Geography.

The award recognizes geography departments and programs that have significantly enhanced the prominence and reputation of geography as a discipline and demonstrated the characteristics of a strong and engaged academic unit. In honoring WMU, AAG praised the Department of Geography for its impact on its broad range of activities and for motivating the discipline to the wider world.

The organization specifically cited the department’s robust research profile, continued broadening of the curriculum, and outreach to K-12 schools and area community colleges. In addition, AAG said that it was impressed by the strong financial support the geography department gives its graduate students. This support, which ensures that WMU’s students are well-prepared for the future, includes ample opportunities to conduct field research, teach and participate in professional gatherings and networking.

**School of Communication ranked a top master’s degree-granting program**

A study published in a leading communication journal names WMU’s School of Communication as a top master’s degree-granting program nationwide, according to an article published in the Journal of the Association for Communication Administration. Additionally, two WMU faculty members, Dr. Julie Eisenhart, director of developmental math in the School of Communication as a top master’s degree-granting program, and Dr. Kirsty Eisenhart, director of developmental math in the College of Arts and Sciences, were recognized as trailblazers for diversity.

Dr. Eisenhart was selected for the TrailBlazer for Diversity Award for demonstrating innovation in her efforts to incorporate diversity into her work on campus and for being committed to further developing sustainable practices that will positively impact the University community.

Nominators said she has surpassed the role of merely teaching by intentionally creating an inclusive classroom environment. As a math instructor, she has modeled for faculty how to create a learning environment that is truly inclusive for students with disabilities.

She continuously revises her curriculum to ensure inclusivity as well as creating spaces in which students have access and are connected to critical resources, contributing to student retention. Nominators described her as “selfless,” as evidenced by offering time to students to provide tutoring and delivering math content in a non-visual manner to better assist students with visual impairments.

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WMU is ranked No. 14—the highest in the state of Michigan—out of 118 master’s degree-granting programs nationwide, according to an article published in the Journal of the Association for Communication Administration. Additionally, two WMU faculty members, Dr. Julie Apker and Dr. Mark Orbe, both professors of communication, are individually ranked as top-cited scholars, demonstrating their major contributions to communication scholarship.

Eisenhart recognized as trailblazer for diversity

Dr. Kirsty Eisenhart, director of developmental math in the Department of Mathematics, was recognized for her efforts to promote diversity, equity and inclusion with a distinguished Excellence in Diversity Award from the University. Eisenhart was selected for the Trailblazer for Diversity Award for demonstrating innovation in her efforts to incorporate diversity into her work on campus and for being committed to further developing sustainable practices that will positively impact the University community.

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The agreement between WMU and Aquinas provides a path for Aquinas students to obtain both an undergraduate and a graduate degree as in as little as five years. The two institutions have established a framework for 4+1 degree programs — accelerated bachelor’s to master’s programs — in multiple fields of study.

The new agreement allows qualified Aquinas undergraduate students to apply up to 12 credits earned during their first four years of college at Aquinas toward a WMU master’s degree in chemistry (M.A. only) or applied economics.

Graduate study takes place on the WMU campus in Kalamazoo, with some classes available in Grand Rapids.

IDEA MACHINE

Three of 32 finalists in the National Science Foundation 2016 Idea Machine Competition from WMU’s College of Arts and Sciences

Western Michigan University may be home to the next big idea shaping the future of science, technology, engineering and math research in the United States. The National Science Foundation is hosting a national competition — the NSF 2016 Idea Machine Competition — open to the public, to choose big ideas that will help drive the agenda of nationally funded science in the United States. Out of a pool of more than 800 entries, three of 32 semi-finalists were contributed ideas selected to move forward in the competition.

Ellis’ idea, “The STEAM Teaching and Learning Incubator,” focuses on empowering K-12 educators to develop new approaches to teaching and learning STEM disciplines by providing a regional maker space hub for instructors to offer support for design, implementation, evaluation and dissemination of their ideas.

“Straight asks how the reversibility, irreversibility and tipping points of different types of systems are determined and how this could potentially impact the future of life on earth with her idea, “Reversibility: Future of Life on Earth.”

KALAMAZOO COLLEGE

The agreement between WMU and Kalamazoo College offers students the opportunity to earn a bachelor’s degree from Kalamazoo College and a master’s degree from Western Michigan University in five years through the following programs: applied economics (M.A.), comparative religion (M.A.), educational foundations (M.A.) and political science (M.A.).

For more information on the NSF 2016 Idea Machine, visit: nsf.gov/deeamachine.

Remembering Thomas Kent

August 30, 1947 – June 9, 2019

Dr. Thomas Kent served as dean of Western Michigan University’s College of Arts and Sciences from 2004-10. Subsequently, he served as a professor in the Department of English, retiring in 2017. Kent authored or co-authored four books and numerous book chapters and journal articles. He was a prolific and distinguished scholar, widely recognized for his work in philosophy, writing and rhetoric studies. Kent passed away on June 9, 2019. He was 71.

Tour provides glimpse into STEM experiences

From the Tandem Van de Graaff Accelerator, to the Finch Greenhouse, to the research labs at Haenicke Hall, Western’s STEM facilities provide students with unique opportunities to engage in experiential learning.

The College of Arts and Sciences recently hosted a tour of these facilities for President Edward Montgomery and members of his cabinet, with faculty and students providing a glimpse into the research and discovery that happens within.

Researcher earns prestigious fellowship for brain cell regeneration study

A WMU researcher is one of a select group in the nation to receive a distinguished award for her work that may lead to a better understanding of how to treat traumatic brain injuries or progressive memory loss.

Dr. Enka Calvo-Ochoa is one of 20 researchers in the nation—and the first at WMU—to be awarded a National Science Foundation Postdoctoral Fellowship in biology.

With her $38,000 award, Calvo-Ochoa is studying the zebrafish olfactory bulb to understand how the brain recovers from damage. Unlike humans, zebrafish can repair brain lesions through cell regeneration.

“By learning how this process works,” Calvo-Ochoa says, “we may be able to learn how this might work in the human brain when there is some form of traumatic brain injury, or a condition such as Alzheimer’s disease.”

President Montgomery and Dr. Paul Parodi tour the Tandem Van de Graaff Accelerator in the Department of Physics.
WMU researchers look for essential minerals through federal grant

A team of WMU researchers in the Department of Geological and Environmental Sciences and the Michigan Geological Survey has begun working on research funded by the U.S. Geological Survey to assess Michigan’s potential for supplying minerals. The federal government considers these minerals necessary to the security and economic prosperity of the United States. The need for states to assess critical minerals became apparent this year when China increased tariffs on rare earth mineral exports to the U.S. WMU was the only facility in Michigan chosen to perform this research.

The project, led by Dr. William B. Harrison III, professor emeritus in the Department of Geological and Environmental Sciences and director of the Michigan Geological Repository for Research and Education, says the U.S. is rich in geological natural resources, including numerous rare earth minerals that have magnetic and optical properties useful in making electronics more efficient.

“These kinds of materials are so important to our technology and our everyday activities that we just can’t afford not to have them. So the president issued an executive order,” Harrison says.

The team is composed of Harrison, John A. Yellich, director of the Michigan Geological Survey, Dr. Peter J. Voice, research scientist and geologist; Dr. Joyashish Thakurta, economic geologist; Jennifer L. Trout, data manager; and several graduate and undergraduate students.

“Dino Park is a ‘win-win-win’ for WMU, the students and the Kalamazoo community,” says Robb Gillespie, assistant professor in the Department of Geological and Environmental Sciences. It can be challenging to attract young students to science and keep them interested in STEM disciplines. With the development of Dino Park, students’ passion for, and engagement in, science is fueled.

WMU will soon be home to a new outdoor education center with an exciting new prehistoric park appearing on campus. Dino Park is a collection of interactive museum exhibits that will not only help students of all ages visualize an important era in Earth history but it will also incorporate real-world datasets from many sub-disciplines to aid in laboratory and classroom exercises. With Phase 1 underway, three dinosaur models have been installed: Utahraptor, Stegosaurus and Triceratops. There will be also additions throughout the park, including several more dinosaurs, dinosaur trackways, model geological rock outcrops and structures, a Michigan Basin geological timeline and mass extinction interactive displays. An official grand-opening will take place late fall of this year. All major phases of construction are expected to be completed by late fall 2020.

WMU received the All-University Graduate Research and Creative Scholar Award. Matthew Craig

The regional chapter of the Michigan Public Relations Society of America recognized students and staff members in the College of Arts and Sciences for professionalism in public relations during the spring. Students Hassan Alaseed and Callahan DeCillis received a gold award at the 2019 PRSA awards May 22, honoring the best public relations work of the year and the highest standards of performance in West Michigan. The annual event recognized practitioners who successfully used skill, creativity and resourcefulness to address a communication challenge in 2018.

The West Michigan PRSA received a record 131 entries, which were judged by a reciprocal PRSA chapter located in San Diego, California. WMU earned the top honor in the internal videos tactic category for the 2018 College of Arts and Sciences Giving Day video, which the students directed and produced.

Standout student earns second brewing scholarship

It was a trip to visit a brewery in Oregon that sparked an interest in brewing for Ellie Maddelen. Starting off at Kalamazoo Valley Community College, she found her success in the joint sustainable brewing program with WMU. This past May, Maddelen was honored with an outstanding award provided by the Kalamazoo Beer Exchange – The Kalamazoo Beer Exchange Jonathan Granfeldt Scholarship – during a celebration that included ringing the Opening Bell.

“I was honored to receive the Kalamazoo Beer Exchange Jonathan Granfeldt Scholarship,” says Maddelen. “This scholarship is a great affirmation of all I have learned while I have been in the sustainable brewing program. Thank you to the Granfeldt family, the Kalamazoo Beer Exchange and my mentor, Dr. Steve Bertman, for supporting me as I enter my final semester and soon after my profession.”

Maddelen will put her knowledge and skills to work at Paw Paw Brewing, where she was recently hired by Dan King, alumnus of WMU and the sustainable brewing program. King was the first in the brewing program to receive the KBE scholarship as a junior in 2016. Maddelen hopes to expand her knowledge of brewing in the future, focusing not only on brewing but also on quality control and lab work. She is grateful to be surrounded by a supportive community of brewers and for the education she received both at WMU and KVCC.

Western Michigan University’s Tre Goodhue, master’s student in public history, is developing sleeper programs for the Smithsonian Associates at the National Museum of Natural History and National Museum of American History. To develop these programs, Goodhue has created activities, organized food and sleeping accommodations, and designed maps to help kids and parents navigate the museums. By the end of his internship, Goodhue will have planned and executed educational programming at four national museums. He plans to complete his master’s degree and eventually pursue a career in museum education and outreach.

WMU will continue its strong tradition of leadership by developing new educational paradigms; students are attracted to the sciences, their imaginations are sparked and they are motivated to interact with Dino Park. Additionally, Kalamazoo citizens have an opportunity to increase their knowledge of recent advances in Earth science and technology,” Gillespie says.

The park is open to the public seven days a week and is located on the northeast side of Road Hall.

Please support this program by giving to – wmsualumni.govettodinopark

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The team is composed of Harrison; John A. Yellich, director of the Michigan Geological Survey; Dr. Joyashish Thakurta, economic geologist; Jennifer L. Trout, data manager; and several graduate and undergraduate students.

The team’s research focuses on 35 mineral and mineral groups critical to the U.S. Michigan’s western Upper Peninsula, eastern Upper Peninsula and the U.S., Voice says. For more information, contact Harrison in the Michigan Geological Repository for Research and Education at harrison@wmich.edu and Yellich in the Michigan Geological Survey at john.a.yellich@wmich.edu.

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With springtime sunshine comes the opportunity to fly. On one of the first rainless days of the season, a group of students gathers around a pickup truck on Western Michigan University’s Parkview campus. Pulling several large cases down from the back of the truck, they proceed to unpack the drones that would soon rise into the air around them.

Enrolled in one of two new unmanned aerial vehicles (UAV) graduate certificate programs, the students are gathered for their practicum field day. Launched in May in coordination with WMU’s Aviation Sciences and with Extended University Programs, these graduate programs pave the way for students to become certified as pilots of remote small unmanned aerial systems (sUAS). One of these new certificate programs delves into the geological and environmental sciences applications of drones, while the other explores their geospatial applications.

On this particular day, students in Dr. Charles “Jay” Emerson’s course in the Department of Geography learn about using the new technology in digital photogrammetry. Emerson lays out the “mission” for the day: understand the Federal Aviation Administration’s requirements for their flight.

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During pre-flight preparations, students walk around the grounds dropping three-foot square yellow pads that will provide exact GPS coordinates to the drone. “Each pad is powered by a solar panel and it takes about 45 minutes to an hour for it to know its exact GPS location,” Emerson says. While the pads are calibrating, Emerson instructs the students on how to program the drones to follow a methodical flight pattern.

Students Graeme Timmeney, Michael Hayosh and Matt Galovan say they had little experience with drones before taking Emerson’s class but have learned how to apply the technology to their specific professional interests. “I’m taking this class because I could use this in my career as an environmental consultant,” says Hayosh. The value of UAVs in environmental science might be as simple as using them to visually locate blockages in rivers and streams while piloting them from dry land, or they can be equipped with sophisticated technology like thermal sensors that can be used remotely to monitor water temperatures.

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ELEVATING LIVES
UAV technology can also help to improve lives by providing geographical demographics for state social service programs. By understanding where target populations exist within a given zip code, for example, social service department managers are able to direct funds exactly where they are needed most.

Precision agriculture – the concept of using new technologies to increase crop yield while lowering the levels of traditional resources needed to grow crops – is another example of the practicality and applicability of drone technology. Kevin Haynes is currently enrolled in the certificate program and plans to pursue his doctorate, with hopes of ultimately becoming a human geographer who can train others and extend the societal benefits of UAV tech.

“Precision agriculture has been proven to increase crop yields and decrease the cost of things like fertilizer and pesticides,” Haynes says. “It’s being used in developing nations a lot; it’s a big deal for increasing agricultural yields and decreasing overhead for farmers.”

“If you look at how developing nations have seen the rise of technology, it has accelerated in certain areas,” adds student Skye Leake. “Looking at cell phones for example, large areas of Africa completely missed the landline era because they don’t have that infrastructure in place. So rapid adoption of something like drone technology could really help a society leapfrog past some of those pitfalls and could be a big benefit.”

EXPLORING NEW FRONTIERS
Emerson and his teaching partner in the certificate program, Dr. Adam Mathews, assistant professor of geography, have worked with drones for a number of years. Emerson says the mix of online and face-to-face instruction in their courses provides an attractive option for both working professionals who wish to utilize drone technology and more traditional WMU students.

Geographers are in demand by governmental planning departments and environmental agencies, private-sector engineering firms and public utilities. The enhanced skills earned through the certificate programs, as well as the technology itself, bring a new dimension to data collection for employees in these areas as well as to those in a growing list of private industries ranging from construction to insurance.

The use of “piloted aircraft for collecting aerial imagery can be costly and sometimes prohibitive,” Emerson explains. “The type of precision available through GPS-enabled drones makes them ideal for carrying instruments that can be used to create high-resolution maps and 3D models of land and structures.”

Drone consultancy service takes off
Consumer drone use is on the rise, with both individuals and organizations taking advantage of the technology’s many benefits – but the cost and experience needed to operate UAVs, and process their data can be a significant barrier. Through the center, Emerson and Mathews provide clients with the drones, cameras and sensors necessary for data collection, as well as the skills needed to interpret relevant data. Their services utilize the Department of Geography’s eight-piece drone fleet, which includes two small quadcopters, one large fixed-wing UAV and two midsize quadcopters. For details, contact the center by visiting wmich.edu/geographicalchange.
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Two faculty members in the Department of Geography have stepped in to fill the equipment and expertise gap by offering a consultancy service through WMU’s W.E. Upjohn Center for the Study of Geographical Change. Dr. Charles “Jay” Emerson, professor, and Dr. Adam Mathews, assistant professor, have long used drones in their teaching and research, and they both serve as UAV consultants on a contract basis through the center.

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Drone technology brings a new dimension to learning and research at WMU.

Dr. Charles “Jay” Emerson
Bringing Japanese Religion and Culture to Career

Touring shrines and temples, sitting in the seat of emperors, meeting leaders of lay Buddhist movements, experiencing waterfall purification, creating manga-style art.

Welcome to the Japanese religion and culture study abroad seminar offered every other year by Dr. Stephen Covell, Western Michigan University's chair of the Department of Comparative Religion and professor of Japanese religions.

"It just opens one's eyes to how big and different the world is but also how similar we can be even though our worlds seem so far apart," says Emily Warren, who took the trip in summer 2016 while an undergraduate student in anthropology and comparative religion.

"Being on the trip I learned something new probably every hour, but it didn't feel like learning – it was simply engagement and adaptation to new surroundings."

The three-credit-hour class includes two weeks in Tokyo, with an optional extra week in Kyoto. This year, 11 students participated in the former, with seven staying for the latter.

"Running around Tokyo for the first time was incredible," says Kendra Combs, a psychology alumna who took Covell's first trip in 2005. "You really can't express in words how electric and sensational that city is."

Covell's background includes 10 years living in Japan, and through that he has developed numerous contacts to whom he reaches out to enhance his students' experience.

"Through Dr. Covell's connections in Japan we were able to stay at one of the most famous temples in Tokyo (Zojoji), view the treasure room of Sensoji, have open discussion with priests of various sects, and explore sides of Japan that not even most natives get to see," says participant Eric Teixeira Mendes.

While in Tokyo, the priests' dorms at Zojoji were their home base while traveling to museums, temples and shrines.

"Staying at the temples is absolutely the best part," says Combs, who later returned to Japan twice, once as a Fulbright scholar in Kobe. "To really immerse yourself in the situation – it was so incredible. So many times I kept saying to myself, 'Is this real? How am I this lucky?'"

The group met with leaders of lay Buddhist and Shinto movements, giving the students a chance to converse with people from a variety of religious practices.

"We were able to see and understand how people interacted with religion in their everyday lives," says Lindy Haskins, a master's student in the comparative religion program in 2014. "By seeing how religion plays out 'on the ground,' we were able to see how it is actually lived, rather than just reading about doctrine and how people are 'supposed' to practice religion."

She especially enjoyed hiking up a beautiful mountain, engaging in a waterfall purification ritual, then continuing up the mountain to a temple where they learned other meditation rituals and spoke one-on-one to the priests.

Covell lectures at Taisho University, and trip participants spent a day getting to know students there, walking through the shopping district and participating in a tea ceremony.

While their knowledge of each other's language was minimal, they found ways to communicate – frequently through phone-assisted translation. The two groups also enjoyed a joint outing to the city of Kamakura.

"One class involved the differences of cultures when it came to superheroes," he says. "We compared the American Superman with Japan’s Goku from Dragon Ball Z. In addition to that class, the Japanese students were interested in America’s gay culture and how we as students understand it."

"It was during this trip that I first encountered Shinto and Buddhist amulets, which became the topic of my thesis, a book chapter and now a project incorporating the Japanese diasporas’ relationship with these objects in Brazil and the U.S.,” he says.

Ferraro, who now works for Panasonic in Buffalo, New York, found that learning and experiencing the courtesies and customs of Japan helps him daily at his job – allowing him to give his company’s Japanese employees “the proper courtesies and customs that they are probably not used to getting from their American counterparts.”

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In addition to visiting temples, shrines and lovely gardens, they stopped at Kyoto Seika University – the only one in Japan to offer a degree in manga art – where they collaborated with students to design a WMU mascot. Mendes says the field school changed his life forever – giving him intimate contact with a culture he was fascinated by and turning that fascination into a career.

"Running around Tokyo for the first time was incredible," says Kendra Combs, a psychology alumna who took Covell’s first trip in 2005. "You really can't express in words how electric and sensational that city is."

Covell’s background includes 10 years living in Japan, and through that he has developed numerous contacts to whom he reaches out to enhance his students’ experience.

"Through Dr. Covell's connections in Japan we were able to stay at one of the most famous temples in Tokyo (Zojoji), view the treasure room of Sensoji, have open discussion with priests of various sects, and explore sides of Japan that not even most natives get to see," says participant Eric Teixeira Mendes.

While in Tokyo, the priests' dorms at Zojoji were their home base while traveling to museums, temples and shrines.

"Staying at the temples is absolutely the best part," says Combs, who later returned to Japan twice, once as a Fulbright scholar in Kobe. "To really immerse yourself in the situation – it was so incredible. So many times I kept saying to myself, 'Is this real? How am I this lucky?'"

The group met with leaders of lay Buddhist and Shinto movements, giving the students a chance to converse with people from a variety of religious practices.

"We were able to see and understand how people interacted with religion in their everyday lives," says Lindy Haskins, a master’s student in the comparative religion program in 2014. "By seeing how religion plays out ‘on the ground,’ we were able to see how it is actually lived, rather than just reading about doctrine and how people are ‘supposed’ to practice religion."

She especially enjoyed hiking up a beautiful mountain, engaging in a waterfall purification ritual, then continuing up the mountain to a temple where they learned other meditation rituals and spoke one-on-one to the priests.

Covell lectures at Taisho University, and trip participants spent a day getting to know students there, walking through the shopping district and participating in a tea ceremony.

While their knowledge of each other's language was minimal, they found ways to communicate – frequently through phone-assisted translation. The two groups also enjoyed a joint outing to the city of Kamakura.

"One class involved the differences of cultures when it came to superheroes," he says. "We compared the American Superman with Japan’s Goku from Dragon Ball Z. In addition to that class, the Japanese students were interested in America’s gay culture and how we as students understand it."

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Bringing Japanese Religion and Culture to Career

Touring shrines and temples, sitting in the seat of emperors, meeting leaders of lay Buddhist movements, experiencing waterfall purification, creating manga-style art.

Welcome to the Japanese religion and culture study abroad seminar offered every other year by Dr. Stephen Covell, Western Michigan University’s chair of the Department of Comparative Religion and professor of Japanese religions.

“It just opens one’s eyes to how big and different the world is but also how similar we can be even though our worlds seem so far apart,” says Emily Warren, who took the trip in summer 2016 while an undergraduate student in anthropology and comparative religion.

“Being on the trip I learned something new probably every hour, but it didn’t feel like learning – it was simply engagement and adaption to new surroundings.”

The three-credit-hour class includes two weeks in Tokyo, with an optional extra week in Kyoto. This year, 11 students participated in the former, with seven staying for the latter.

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Nick Ferraro, a film, video and media studies alumni on the 2006 trip, found the classes with Japanese college students very meaningful.

“One class involved the differences of cultures when it came to superheroes,” he says. “We compared the American Superman with Japan’s Goku from Dragon Ball Z. In addition to that class, the Japanese students were interested in America’s gay culture and how we as students understand it.”

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Through the WMU alumni group in Japan – which hosted a dinner for the visitors – the students procured tickets to a sumo match and toured a high-end kimono shop.

Riding the bullet train to Kyoto, they experienced fast transit – a 155 miles per hour ride so smooth that five minutes in, students asked if they had left the station yet.
As a geologist, Dr. Roger Steininger, B.S. ’64, is one who naturally gravitates toward exploration and discovery. That innate curiosity began when he was a boy growing up in Detroit with a fascination for rocks and minerals. It followed him on family trips to the iron and copper mines of Michigan’s Upper Peninsula, and to the great geologic features of the western United States. It brought him to Kalamazoo and Western Michigan University’s geology program, where he would meet Dr. Lloyd Schmaltz, his lifelong mentor and friend. Eventually, it led him to discover one of the largest gold deposits in the state of Nevada—the 20 million-ounce Pipeline mine.

And although his geological detective skills have led him to unearth some of the world’s most significant gold and mineral discoveries, for Steininger, the real fortune of his work is being able to do what he loves. “It’s just the fascination of learning about the earth—how it’s formed and how it’s made up,” he says. “I’m the guy with the pickaxe, wandering the hills with a computer and a lot of chemical assistance. That’s pretty much what my job has been, is finding areas that are prospective for gold deposits and doing the initial work to prove there’s something there.”

Steininger, who now lives in Reno, Nevada, and is a semi-retired geological consultant, has had an extraordinary career in economic geology. Having been part of the Nevada gold rush “since the get-go” in the early 1980s, his primary focus has been in gold exploration and development in the West.

“Nevada is the fourth largest gold producing region in the world,” Steininger says. “So, in 1987 I decided to form my own consulting business.” He has since been credited with discovering the Pipeline and Long Valley gold deposits, as well as participating in the discovery or expansion of gold reserves at numerous mining operations.

Along the way, he has found great reward in the economic impact of his work, as well as helping new geologists develop their skills. “For every mining job that’s developed, there are two or three side jobs that are created,” he says. Referring to the Pipeline, he states, “It’s a big mine that created a lot of good paying jobs for a lot of people. It created a lot of tax revenue for the state and federal government, and a fair amount of economic wealth for people and the country in general. That gives me a lot of satisfaction.”

Steininger loves the challenge of examining a piece of ground that might contain a mineral deposit. He uses his skills in geology and geochemistry to identify areas where precious metals hide and works with mining and exploration companies to develop those deposits.

“The challenge is being able to read the rocks and find something of value in them,” he says, “in addition to keeping the client convinced that what you’re onto is the right thing. It takes a lot of work educating people in the business who might not be geologists that what you’re onto is good or not.”

Steininger holds a gold coin made from one of his most significant discoveries, the 20-million-ounce Pipeline deposit. It is one of the largest gold deposits in the state of Nevada.
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It was Schmaltz in particular who introduced Steininger to the University and encouraged him to follow his passion. Now a professor emeritus, Schmaltz was just beginning to form the geology department in the early 1960s when Steininger transferred to WMU from Wayne State.

“Western was the place where I grew to be a better student and a lot of that was Lloyd’s doing,” Steininger says. “He pushed me when I needed to be pushed and got me going in the right direction.”

After graduation, Steininger went on to Brigham Young University where he would meet his wife, LuAnne. He worked as a lab instructor, with ambitions of eventually becoming a college professor. “I got a good education with lots of time in the field banging on rocks in Utah and Nevada,” he says.

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After Steininger earned his master’s degree, he and LuAnne move to Pennsylvania where he began a doctoral program in theoretical geochemistry at Penn State University. “A year into it I realized, this is not me,” he says. “I really wanted to be out banging on those rocks, so we left Penn State and moved to Colorado, where I took a job with a company called Climax Molybdenum.”

Steininger spent 15 years working at the company’s mine and at their corporate office in Denver. He traveled extensively through North America, working on molybdenum deposits, an alloy mineral for steel, while raising two children with LuAnne. He also completed his doctorate at Colorado State University at that time.

In 1981, Steininger decided it was time to move on from Climax Molybdenum. He took a position as western U.S. exploration manager for BP Minerals’ Anselmo division in Reno, which introduced him to the Nevada gold business. From there, he formed his consulting business and has since advised many mining and exploration companies in the industry. In 2009, he co-founded NuLegacy Gold Corporation, which led to the discovery of the Iceberg gold deposit in Nevada.

Because of his significant professional contributions to the mining industry and to geological education, Steininger received the WMU College of Arts and Sciences’ Alumni Achievement Award in 2018. This year during Homecoming and Family Weekend in October, he will be recognized with the University’s Distinguished Alumnus Award. It is the highest honor WMU confers on graduates.

Even now in retirement, Steininger’s fascination with treasures beneath the ground still fuels his geological scholarship. He is currently writing a number of scientific papers, as well as a book about the history of mining. And, he continues to venture out with his pickaxe once in a while. “It’s been an interesting, challenging and fun career,” he says. “I attribute a lot of that to the education I received at Western, and to the teaching and leadership of Dr. Lloyd Schmaltz.”

### Continuing a legacy

Roger Steininger’s many achievements unearting mineral deposits started with a solid geological foundation from professor emeritus Lloyd Schmaltz and others in the WMU Department of Geological and Environmental Sciences. Because of Schmaltz’s influence and his own outstanding experiences at WMU, Roger and his wife LuAnne established a scholarship for a junior or senior who is passionate about geology and wants to pursue a career in the mining industry. The Steinitzers provided a $25,000 endowment that will allow the University to award a $5,000 annual scholarship in perpetuity.

“What I’m hoping to accomplish with this scholarship is that students will be encouraged to pursue the natural sciences and engineering, and that they will graduate and become practitioners,” Steininger says. “I attribute a lot of that to the education I received at Western, and to the teaching and leadership of Dr. Lloyd Schmaltz.”
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Steininger examines drill hole samples from a NuLegacy Gold deposit.

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“Thanks to this gift, many deserving students will be given exceptional educational and research opportunities with faculty in our department,” says Dr. Mohamed Sultan, chair and professor of geological and environmental sciences. “Additionally, the scholarship will help Dr. Schmaltz’s outstanding teaching legacy continue for years to come. The department and University are very grateful to the Steiningers for their longtime support – they are a tremendous asset to our program and students.”

Please support this endowment by giving to wmualumni.org/givetosteininger

A bird’s eye view of Michigan’s interdunal wetlands

Claire Gilbert has leaned through her geography graduate courses that unmanned aerial vehicles, or drones, can take you to places once nearly unreachable by traditional means.

From a research perspective, this opens a world of opportunities for exploring unexamined landscapes and ecosystems, capturing never-before-seen images, and collecting data in a way that’s sustainable and safe for the environment.

With the help of a camera-mounted drone and direction from her advisor, Dr. Adam Mathews, assistant professor of geography, Gilbert is getting a bird’s eye view of Michigan’s interdunal wetlands at Ludington State Park. Working with Dr. Tiffany Schriever, assistant professor of biology, and her research group, Gilbert is collecting and analyzing aerial data to gain insights into the habitats that comprise these unique and fragile ecosystems. “Dr. Schriever’s research group is currently examining interdunal wetland biodiversity along Lake Michigan’s coast,” Gilbert says. “I will provide them with spatial analysis of wetland ponds, vegetation structures and macroinvertebrates (organisms that lack a spine and can be seen with the naked eye).”

The results of their collaborative research will be provided to Michigan’s Department of Natural Resources. “By gaining a better understanding of interdunal wetlands and ideal habitats for the organisms that live there, the Michigan DNR can create a plan to protect and preserve these rare ecosystems,” Gilbert says.

Gilbert is making multiple flights over the wetlands, collecting and georeferencing high-resolution images that she will use to create an orthophotomap and 3D visual of the landscape. She will use the maps to classify plant species within the ecosystems by their unique spectral signatures, before moving on to spatial analysis. “I will look at the physical characteristics of the landscape, including pond extent, depth and water composition, as well as vegetation density,” she says. “The spatial analysis will define the relationship between plant and macroinvertebrate species populations in the park’s landscape ecology.”

Gilbert says she was able to become certified as a remote UAS pilot – one who flies small unmanned aerial systems – through WMU’s certificate program in geospatial applications of UASs. Being able to capture airborne imagery of the interdunal wetlands has led her to explore a new interest in biology. “I’ve had this incredible opportunity to work with Dr. Schriever’s lab and integrate the two disciplines,” Gilbert says. “Not only do I get to help the lab with their sampling field work, I’ve been introduced to a research community that might not otherwise work with geographers.”
CANINES IN COURT

In fact, the Dalton case marks the first time Moe and Sunny, or any dog, have been asked to provide support in the local court system. Moe says the use of therapy dogs in courtrooms has been met with some resistance due to concerns such as hygiene and whether or not the animal will be too persuasive to a jury.

“No dog has been in a courtroom formally as a therapy dog in Kalamazoo County,” Moe says. “However, in about a third of Michigan counties there’s an actual full-time therapy dog. People in Kalamazoo have inquired about it, and I think the courts are starting to realize that he (Sunny) or some other dog could be a real asset.”

Having worked in child abuse prevention and trauma recovery for a number of years, Moe got involved in supporting Dalton victims through her networks in the community. She connected with the Kalamazoo/Battle Creek Resiliency Project, a grant-funded organization that provides support and resources to the survivors, family members, first responders and others affected by the two mass violence events that occurred in Kalamazoo and Battle Creek in 2016—the shooting, as well as the deaths and injuries to a group of cyclists who were struck by a motorist in June that year.

“Part of the organization’s work was to think outside the box and come up with ways to serve a large number of people,” Moe says. “Some of my connections there already know Sunny and have seen what he can do.” Recognizing the incredible healing power a therapy dog can provide, the victims’ advocates were eager to give Sunny a try.

It’s January 2019 and inside the Kalamazoo County Courthouse, a proceeding is happening for one of the most high-profile and horrific crimes the community has ever seen. Behind the scenes, a gentle-faced golden retriever sits and waits calmly.

Three years have passed since six people died and two were gravely injured during a shooting spree on Feb. 20, 2016 that made national headlines. Now, as the court case of the shooter Jason Dalton – an Uber driver who went on a rampage that fateful night – is underway, this compassionate canine is ready to work.

His name is Sunny and he is a therapy dog – a professional comforter brought in to help survivors, families and friends of victims cope with reliving the details of the crime. In troubling times, Sunny’s calming presence is sometimes the only thing that can get a person through the next day, hour or even 30 seconds recounting a traumatic memory.

With loving ears to listen and a soft coat to stroke, Sunny automatically knows when it’s time to go into support mode. “He quickly bonds with people in a nondiscriminatory way, which is very powerful,” says Dr. Angela Moe, Western Michigan University professor of sociology and Sunny’s owner and handler. “The more people get to know him, the more they seem to rely on him – so that bond builds.”

Moe and Sunny are a registered therapy dog team through the national organization Pet Partners. Together they visit schools, hospitals, domestic violence shelters and various agencies, providing the healing comfort of a therapy animal wherever their services are needed. They only go where they’re invited and are careful to let people approach Sunny instead of vice versa, in case anyone is afraid of or allergic to him.

Moe, who is a qualitative ethnographic researcher, also considers Sunny her latest research project. She is using her experiences in canine therapy as part of her teaching toolbox in the WMU Department of Sociology. Her scholarship develops novel methods of serving people in the community, for example by introducing Sunny in environments such as courtrooms, that have not previously had access to therapy dogs.

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It’s January 2019 and inside the Kalamazoo County Courthouse, a proceeding is happening for one of the most high-profile and horrific crimes the community has ever seen. Behind the scenes, a gentle-faced golden retriever sits and waits calmly.

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His name is Sunny and he is a therapy dog – a professional comforter brought in to help survivors, families and friends of victims cope with reliving the details of the crime. In troubling times, Sunny’s calming presence is sometimes the only thing that can get a person through the next day, hour or even 30 seconds recounting a traumatic memory.

With loving ears to listen and a soft coat to stroke, Sunny automatically knows when it’s time to go into support mode. “He quickly bonds with people in a nondiscriminatory way, which is very powerful,” says Dr. Angela Moe, Western Michigan University professor of sociology and Sunny’s owner and handler. “The more people get to know him, the more they seem to rely on him – so that bond builds.”

Moe and Sunny are a registered therapy dog team through the national organization Pet Partners. Together they visit schools, hospitals, domestic violence shelters and various agencies, providing the healing comfort of a therapy animal wherever their services are needed. They only go where they’re invited and are careful to let people approach Sunny instead of vice versa, in case anyone is afraid of or allergic to him.

Moe, who is a qualitative ethnographic researcher, also considers Sunny her latest research project. She is using her experiences in canine therapy as part of her teaching toolbox in the WMU Department of Sociology. Her scholarship develops novel methods of serving people in the community, for example by introducing Sunny in environments such as courtrooms, that have not previously had access to therapy dogs.

CANINES IN COURT

In fact, the Dalton case marks the first time Moe and Sunny, or any dog, have been asked to provide support in the local court system. Having worked in child abuse prevention and trauma recovery for a number of years, Moe got involved in supporting Dalton victims through her networks in the community. She connected with the Kalamazoo/Battle Creek Resiliency Project, a grant-funded organization that provides support and resources to the survivors, family members, first responders and others affected by the two mass violence events that occurred in Kalamazoo and Battle Creek in 2016 – the shooting, as well as the deaths and injuries to a group of cyclists who were struck by a motorist in June that year.

"Part of the organization’s work was to think outside the box and come up with ways to serve a large number of people," Moe says. “Some of my connections there already know Sunny and have seen what he can do.” Recognizing the incredible healing power a therapy dog can provide, the victims’ advocates were eager to give Sunny a try.
Two Arts and Sciences faculty members received WMU's 2018 Distinguished Teaching Award. The late Michael Braun, faculty specialist in the Department of Spanish, and Dr. Scott Sławinski, associate professor of English and graduate director for the department, were honored during the University's Fall Academic Convocation. The Distinguished Teaching Award is WMU's highest award recognizing faculty members for their work with students.

COMPASSIONATE COMFORTERS

It’s no secret that canines bring comfort to survivors and others in crisis. Simply petting a dog can decrease levels of stress hormones, lower blood pressure, regulate breathing and produce oxytocin, a hormone associated with bonding and affection. In addition to the physiological benefits, dogs are highly social and generally respond to human emotion quite sensitively. From a sociological standpoint, Moe says, this has tremendous value in helping those who have experienced trauma. “The Dalton case was hopefully our proving ground to show people that concerns with having him in the courtroom can be managed,” Moe says. “It costs nothing and none of the challenges are things we can’t overcome.”

Since the court proceedings have concluded, Sunny has been spending more time doing one of the things he does best – working with young children. One of his first jobs was to be on-hand at the Children’s Advocacy Center of Kalamazoo, which serves children who have been, or are suspected to have been, sexually or physically abused. In addition to the comfort Sunny provides, kids who work with him are often able to regain a sense of agency and control.

“Engaging with Sunny becomes a teaching moment,” Moe says. “If a child gets to choose how to interact with Sunny and knows their body is safe, soon they’re petting him and at ease. It’s letting everyone come at their own pace, which I consider trauma informed. The kids who have been, or are suspected to have been, sexually or physically abused. In addition to the comfort Sunny provides, kids who work with him are often able to regain a sense of agency and control. They get to have control over something, and that feels pretty good.”

SUNNY’S DAYS AHEAD

Three-year-old Sunny is just beginning to dip his paw into the therapy world, and Moe is eager to see what the future holds for them. In addition to working in the court system and with children, the pair has visited first responders who have experienced particularly difficult cases, are making inroads to volunteer with the Kalamazoo emergency management team and are considering becoming certified as a national canine crisis response team. Sunny is also a regular visitor to Moe’s WMU classrooms and will continue to be a critical asset to her teaching and research.

“I’ve been fortunate for my senior colleagues at Western who have given me the latitude to do this type of work,” Moe says. “It’s amazing to think about and see what our future will hold. Sunny is just reaching his prime, so we’ll see what he can do.”

The Department of Geography’s Dr. Lisa DeChano-Cook, associate professor and Mary L. Brooks, administrative assistant, published “The Kalamazoo River” through Arcadia Publishing in August. The book discusses the waterway’s historic uses as well as some of the environmental issues that have plagued the river, including the 2010 Enbridge oil spill. It offers a visual account of the river’s history, through 2020 photos that span from the 1880s to present day.

Dr. Manuel Bautista, professor of physics, was named a Fellow of the American Society for Legal History. Dr. Sally Hadden, associate professor of history, received the Craig Joyce Medal at the society’s annual meeting in November for her long and outstanding service to the organization. Awarded only four times until now, the medal is presented on an occasion basis to “acknowledge and honor extraordinary and sustained volunteer service to the society.”

Several WMU faculty and alumni took the stage during a TEDxKalamazoo event in October. Among the speakers were the late Sue Ellen Christian, professor of communication, who discussed crossing life’s racial fault lines, and Dr. Angela Moe, professor of sociology, who spoke about the human-animal bond.

WMU’s Communication and Social Robotics Lab recently launched the Human-Machine Communication Journal – the first of its kind to explore theory and communication with and about digital interlocutors. Professors of communication Dr. Autumn Edwards and Dr. Chad Edwards serve as the editor-in-chief and associate editor, respectively.

Faculty Notes
SUNNY’S DAYS AHEAD

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A Western Michigan historian is the first woman to receive a prestigious service award from the American Society for Legal History. Dr. Mariam Konaté, associate professor of gender and women’s studies and African American and African studies, will direct a new two-week study abroad program in Accra, Ghana, in 2020. The unique program will focus on African history and culture, and the issues surrounding slavery and migration. It will combine challenging coursework with experiential learning opportunities, with students attending lectures given by faculty from the University of Ghana, the University of Cape Coast and Kwame Nkrumah University of Science and Technology.

Dr. Benjamin Ofori-Amoah, chair and professor of geography, published the textbook, “Africa’s Geography: Dynamics of Place, Cultures and Economies,” in the spring.

Dr. Susan Pozo, professor of economics, edited “The Human and Economic Implications of 21st Century Immigration Policy.” Pozo says that when the debate over immigration heated up in 2016, it was important to hear from economists who had studied the issue. Several of those scholars spoke during the Department of Economics’ 2016-17 Werner Sichel lecture series. The book, published by the Uyjoin Institute for Employment Research, includes summaries of the work by the economists who spoke at WMU that year.

Dr. Michael Famiano, associate professor of physics, received a Core Fulbright Scholar Program award to conduct research on the universe’s formation during the 2018-19 academic year, supported by his Fulbright Award. Famiano spent January through June in Japan with the National Astronomical Observatory’s Department of Theoretical Astronomy. Famiano’s research project evaluates the effects of relativistic electron positron plasmas on astronomical observables. It includes outreach activities with students as well as the public in both Japan and the United States.
Western Michigan University takes pride in being learner centered, discovery driven and globally engaged. The College of Arts and Sciences 2018 Alumni Achievement Award winners were selected by faculty for exemplifying these pillars and for their remarkable contributions to society.

Three Alumni Achievement Award winners who have excelled beyond the normal scope of achievement in their profession throughout global engagement, discovery driven or learner centered endeavors are selected as the college’s Pillar Award honorees and recognized at WMU’s Night of Excellence.

Dr. Jack Mannis, ’70
Department of Comparative Religion
Mannis was an Upjohn Company scientist in fermentation research and development. Outside the lab, he led the implementation of good manufacturing and cGMP compliant operator containment practices at clinical and commercial manufacturing scales. Throughout his career, he was also highly active in preparing and maintaining cGMP and documentation for active pharmaceutical ingredients.

Michael Steele, ’74
Department of Communication
Steele is president and CEO of Advantage Communications, Inc., a full-service advertising and public relations agency in Little Rock, AR. He invests in agency diversity and builds talented marketing teams as multicultural as the American consumer market. Steele previously helped create one of the world’s most recognizable brands as a marketing executive with Coca-Cola.

Dr. William Walker, ’78, ’79
Department of Economics
Walker teaches economic policy, macroeconomics, institutional economics and the economics of food. He is also editor of the Journal of Economic Issues, a scholarly publication from The Association for Evolutionary Economics. Walker has been a member of the Midland and William Smith Colleges faculty since 2008 and was a visiting scholar at University of Cambridge in England.

Ryan Findlay, ’14
Department of Political Science
Findlay is CEO of the American Soybean Association, a non-profit organization focused on agricultural policy affecting farmers nationwide. Prior to this role, Findlay worked four years as North American industry lead for the global agricultural company Syngenta, focusing on freedom-to-operate issues impacting farmers across the world.

Dr. Geoffrey Scoville, ’93
Department of Psychology
Dr. Geoff Scoville, ’93
Professor of Psychology, University of Florida
DeLoan held a faculty position at Johns Hopkins University School of Medicine and was the director of research at the Kennedy-Krieger Institute. Since 2015, DeLoan has continued his teaching and research activities at the University of Florida where he currently holds the rank of professor of psychology.

Sarah J. Murray, ’09
Department of History
Mallinson Institute for Science Education
Department of Chemistry
She is also a national innovator in developing forensic science courses at the high school level.

Dr. Roger Steininger, ’64
Department of Chemistry
Dr. Roger Steininger was the 1964 winner of the American Chemical Society’s Priestley Award for Excellence in Education. Steininger has had a fifty year career in chemistry education. He has been a visiting scholar at University of Cambridge in England.

Dr. Nicholas Scoville, ’95, ’97
Department of Mathematics
Dr. Nicholas Scoville (’97) was a faculty position at Johns Hopkins University School of Medicine and was the director of research at the Kennedy-Krieger Institute. Since 2015, DeLoan has continued his teaching and research activities at the University of Florida where he currently holds the rank of professor of psychology.

Dr. Geoffrey Scoville, ’93
Professor of Psychology, University of Florida
Scoville frequently works with students on research projects across numerous topics related to his research interest, topology. His work with students is also evident via the highly competitive National Science Foundation Grants he has received in support of research experiences for undergraduates.

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### Department of Anthropology
Susan Reichert, ’66
Manager, Quality Programs, Fellowship in America’s Cities, JPMorgan Chase & Co.

Reichert has worked with Kellogg’s manufacturing locations worldwide to improve processes and tools needed to produce quality products. She earned her master’s degree in anthropology at Kalamazoo College in 1968 and was heavily involved with the Fort St. Joseph Archaeological Project. She currently works with Climax-Scotts teachers on programs that incorporate archaeology into the classroom.

### Department of Biological Sciences
Dr. Gary J. Pierce, ’74
Professor and Director of Graduate Studies

Pierce taught botany at Niagara University and the Rachel Carson College environmental center at the University of Buffalo until he started a career in environmental consulting. After a successful career, he and his family members established the Pierce-Creek Institute in Barry County, who was founded to protect and enhance quality of life through ecological education, research and stewardship of the natural world.

### Department of Geology and Environmental Sciences
Dr. Roger Steininger, ’64
Consulting Geologist, Steininger Consulting

Steininger started his geological career with Climax Molybdenum Co. and after 15 years took a position as western U.S. site manager for BP Minerals’ Amseal division. In 1987 he formed Steininger Consulting, in 2000, he became a 3rd generation investor of NuLegacy Gold Corporation. Steininger recently retired from NuLegacy after discovering theiability gold deposit in Nevada.

### Department of Chemistry
Dr. Jack Mannis, ’79
Internal Pharmaceutical Research and Technology Manager

Mannis was an Upjohn Company scientist in fermentation research and development. Outside the lab, he led the implementation of good manufacturing and environmental organization practices at clinical and commercial manufacturing scales. Throughout his career, he was also heavily active in preparing and maintaining documentation for active pharmaceutical ingredients.

### School of Communication
Michael Steele, ’74
President and Chief Executive Officer, Advantage Communications, Inc.

Steele is president and CEO of Advantage Communications, Inc., a full-service advertising and public relations agency in Little Rock, AR. He invests in agency diversity and builds talented marketing teams as multicultural as the American consumer market. Steele previously helped create one of the world’s most recognizable brands as a marketing executive with Coca-Cola.

### Department of Economics
Dr. William Waller, ’78, ’79
Associate Professor of Economics, Grand Valley State University

Waller teaches political economy, microeconomics, institutional economics and the economics of law. He is also editor of the Journal of Economic Issues, a scholarly publication from the Association for Evolutionary Economics. Waller has been a member of the Hobart and William Smith Colleges faculty since 1992 and has taught at three different high schools, most recently serving for 21 years at Portage Northern High School. She is also a national innovator in developing forensic science courses at the high school level.

### Department of Political Science
Ryan Findlay, ’14
Chief of Staff, American Hospital Association

Findlay is CEO of the American Hospital Association, a non-profit organization focused on an agricultural policy, affecting food and nutrition. Prior to this role, Findlay worked four years as North American industry lead for the global agricultural company Syngenta, focusing on food and freedom-to-operate issues impacting farmers across the world.

### Department of Psychology
Dr. Iser DeLeon, ’93
Professor of Psychology, University of Nevada Reno

DeLeon held a faculty position at Johns Hopkins University School of Medicine and was the director of research at Kennedy Krieger Institute. Since 2014, DeLeon has continued his teaching and research activities at the University of Nevada where he currently holds the rank of professor of psychology.

### Department of Statistics
Loren Henry, ’66, ’79
Master Faculty Member, Kellogg Community College

Henry worked as a programmer and information scientist for the Upjohn Company, supporting the Michigan vineyard project for which he was awarded the 2017 Innovation Award. He then joined the Department of Statistics as a coordinator of STATA Business Statistics, a required course for all pre-business students.

### Department of History
Alan Holden, ’68
President, Holden Experience, Inc.

As vice president for Wells Fargo Insurance, Hold has overseen annuity servicing, claims, compliance, policy forms filing and underwriting activities for the company. Throughout his career, he has regularly pursued educational programs and course work related to the insurance industry.

### Department of Geography
Dr. Theresa Crumrine, ’93, ’96
Assistant Professor, National Park Service, University of Northern Iowa

Crumrine promotes participation in geographic research, a national-scale, citizen scientist and animal and plant extending observation program, and oversees the generation of USA-NPN’s phenology-oriented data products and maps. She also maintains an active research career and has published numerous articles and book chapters, many addressing recent changes in plant phenology.

### Department of Spanish
Dr. Kevin Fuchs, ’92
Foreign Language Faculty, Kalamazoo Valley Community College

Fuchs’ main passion is teaching and since his first class at a teaching assistant in Spanish at WMU, he has had experience as a language instructor, lecturer, TA and visiting professor at Indiana University South Bend, Grand Valley State University, Michigan State University and Kalamazoo Valley Community College.

### Malinowski Institute for Science Education
Kathy J. Mirakovits, ’78
Assistant Professor, Elementary Education

Mirakovits is a leading K-12 educator in the state of Michigan. She began her teaching career in 1956 and specializes in teaching physics and forensic science. She has taught at three different high schools, most recently serving for 21 years at Portage Northern High School. She is also a national innovator in developing forensic science courses at the high school level.

### Department of World Languages and Literatures
Sarah I. Murray, ’95
Associate Director, Office of International Affairs, Indiana University

Murray facilitates short-term and long-term language programs focused on leadership development, building networks and cultural exchange through people-to-people relations. She previously participated with USC-Asia Corp in community and economic development across Michigan, providing technical expertise in curriculum development and securing funding from state and federal agencies for infrastructure and community development initiatives.
The Sky is the Only Limit

“Water is the miracle of our lives. We need it so badly, yet as humans we have made many negative decisions in the past with the use of asbestos, PFAS (polyfluoroalkyl substances), cyanide and other pollutants,” says Dr. Mine Dogan, assistant professor of geological and environmental sciences. “Now we know much better, and it’s important to fix our past mistakes.”

Dogan, who specializes in geophysics, focuses her research primarily on groundwater-related environmental issues. As one of the primary faculty members teaching courses in WMU’s new UAVs applications in geological and environmental sciences certificate program, she is bringing a unique technique to investigating such problems.

Dogan is credited for bringing a very low frequency electromagnetic sensor system to the University, making WMU just the second organization in the world to have a consumer drone outfitted with such a VLF system. Utilizing the equipment, she maps plumes and defines flow paths and possible geologic features that affect ground water movement. The results of her scholarship can play a critical role in informing water management plans and warning for short term water movement. The unique probe allows Dogan and her research team to map high conductivity media in reducing chemical environments, such as leachate from landfills. “I am very excited about this new system, as it promises great opportunities for environmental research,” she says.

Dogan is also in the process of forming a new instrument repository that will hold several very powerful UAV platforms and a variety of geophysical probes to map discontinuities, fractures, clay layers and other physical characteristics that inform groundwater flow models.

She adds that the constantly evolving technology will continue to drive her research. “I will keep working on new technologies and new ways to utilize these technologies to ameliorate real-world problems,” she says.

Nearly 50 years ago Dunbar, Friedmann and Knauss halls were opened to expand the University, highlighting a new architectural design and amphitheater located in the center of the buildings. Dunbar Hall, named after Dr. Willis F. Dunbar, late professor of history, holds 30 classrooms, six seminar rooms, a lecture room and TV studios. As the second most-utilized teaching facility on campus, Dunbar Hall is where most arts and sciences students begin their college journey.

Dunbar was of great importance to the Western community. He worked at WMU from 1951 to 1970 as a professor in the history department, taking on the role of chairman from 1956 to 1957. As a professor Dunbar was informative and personable, always willing to help his students. Dunbar’s legacy lives on through the numerous books he authored. His findings, research and writing are housed in WMU’s Zhang Legacy Collections Center.

“The future of Dunbar Hall”

Beginning in spring of 2020, Dunbar Hall will be renovated to accommodate students and campus. Supported by $30 million in state funding, the $40 million renovation is expected to be completed in fall of 2022. Updates will include reconfigured classroom layouts, workspaces, technology upgrades and updated interiors.

“Nearly every undergraduate student, regardless of major, will take a class in Dunbar during their time at WMU,” says Dr. Carla Koretsky, College of Arts and Sciences dean. “Classrooms will be designed for active, hands-on learning that will advance our mission of igniting and sustaining a passion for learning and discovery in the humanities, social sciences and sciences.”

Please support this project by giving to—wmualumni.org/givetocasdiscretionary
**The Sky is the Only Limit**

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“Chemicals like PFAS have been used so excessively that we are just starting to realize the extent of their damage,” Dogan says. “The chemistry of these compounds is very complex; they don’t break down readily in natural systems and are highly mobile in groundwater so they can travel long distances and spread through large volumes.”

Additionally, she says, the pollutants cover vast areas that are difficult to survey in detail. “I am working on developing better insight into groundwater movement, which requires understanding flow paths and their behavior,” she says.

The drone-mounted sensor is based on the same VLF technology that land-based facilities employ to send messages to submarines and that has been carried on aircraft for decades to map high-conductivity discontinuities in geological material.

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**GUIDING ORGANIZATIONS’ DECISIONS THROUGH SPATIAL DATA AND ANALYSIS**

Communities and organizations are faced with critical decisions every day, often without key data. Dr. Kathleen Baker, professor of geography, Director of the W. E. Upjohn Center for the Study of Geographical Change and founding member of WMU’s Health Data Research Analysis and Mapping (HDream) Center, has been helping local industries, county and township governments and community foundations make informed conservation and public health decisions for over sixteen years by providing them essential spatial data and analysis. In a current project with the Southwest Michigan Land Conservancy, Baker is providing an in-depth analysis of areas critical to conservation to achieve long-term resiliency in regional ecosystems. Baker has also provided local agencies with important spatial data on maternal and child health outcomes and infectious diseases. These data, which are available via open access (wmich.edu/hdream), help health care agencies to develop specific interventions leading to improved public health outcomes.

“My goal is to provide quality and timely data and analysis to those making decisions about current conservation management and public health issues at a local to regional scale,” says Baker. “I involve students in every aspect of grant and contracting process. With supervision, students manage relevant data, perform analysis, run models, create online interactive mapping websites, are coauthors on publications and present at local and national conferences.”

Baker’s work in the classroom and in the community is constantly evolving and developing. For each research question that is posed and each class that is taught, Baker seeks new data and innovative ways to adapt her teaching for each new group of students and their specific interests. “I want to continue to explore ways to get students involved in community research, both inside and outside of the classroom. Experiential learning makes them more employable in the short term and better citizens in the long term.”

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**Willis F. Dunbar and the History of Dunbar Hall**

**THE FUTURE OF DUNBAR HALL**

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Please support this project by giving to—wmualumni.org/givetoCASdiscretionary
SAVE THE DATE!
The College of Arts and Sciences’ Homecoming festivities start Friday, Oct. 11 and run through Sunday, Oct. 13, 2019.

FRIDAY, OCT. 11
4 p.m. – Alumni Achievement Awards | 208-209, The Bernhard Center
6 p.m. – WMU Night of Excellence | Radisson Plaza Hotel at the Kalamazoo Center

SATURDAY, OCT. 12
TBD – WMU Pregame Stampede Tailgate | Heritage Hall Parking Lot Arts and Sciences Pavilion – Great FUN and PRIZES
TBD – WMU Bronco Football Kick-off vs. Miami University

SUNDAY, OCT. 13
9:30 a.m. to 12:30 p.m. – Sunday Brunch at the Valley Dining Center

Go to wmualumni.org/homecoming for complete details.