FOUNDATION TAKES IDEAS FROM LAB TO MARKETPLACE

TOM OSWALD // DEVELOPMENT

Since its founding in the early 1970s, the MSU Foundation has been a beehive of activity, bringing together the worlds of higher education and economic development, tech transfer, licensing, patenting and all the other components that help keep the university’s research machine running smoothly. The foundation actually came to be in 1971, founded under the former President Clifton Wharton. Things really got rolling in 1978, when royalties began coming in for cisplatin and carboplatin, two cancer-fighting drugs that were discovered by former MSU researchers Barnett Rosenberg, Loretta VanCamp and Thomas Kriaras. It’s the income from those royalties that allows the foundation to offer grants throughout campus: Strategic Partnerships Grants, Capacity Building Grants and the Humanities and Arts Research Program, to name a few. It also gives it the opportunity, in close partnership with the MSU Innovation Center, to fund programs that focus on economic development, including via the foundation’s subsidiaries: Spartan Innovations, which focuses on venture creation; Red Cedar Ventures (venture investment); and the University Corporate Research Park, which focuses on real estate, placemaking and startup incubation.

“Traditionally, the goals of the university are educating students, conducting research and community outreach,” MSU Foundation Director David Washburn said. “But over the last few years, a new goal was adopted — economic development through the commercialization of intellectual property created by faculty, staff and students. And that’s where we come in.”

Basically, the MSU Foundation’s mission is to move MSU’s technologies from the lab to the marketplace to improve lives and communities locally, regionally and around the world. And this all begins with the research conducted by staff, faculty and students. Every year, about 175 new inventions spring forth from these folks. Washburn noted that number is a bit below the mean when compared to other top research universities in the country, a number he hopes to see increased. These inventions are

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10 PROFS EARN ‘DISTINGUISHED’ DESIGNATION

Honor celebrates achievements in lab, class, community

MADELINE KELLY // ACADEMICS

Ten MSU professors have been named University Distinguished Professors in recognition of their achievements in the classroom, laboratory and community. The Board of Trustees voted on and approved the recommendations at its June 21 meeting. The designations were effective immediately. The recognition is one of the highest honors that can be bestowed on a faculty member by the university. Those selected for the title have been recognized nationally and internationally for the importance of their teaching, research and outreach achievements.

Austin Benning
Buell Chani

Individuals holding the professorship will receive a stipend of $5,000 per year for five years to support professional activities in addition to their salary. A reception to honor the newly designated University Distinguished Professors will be held Nov. 21. The new University Distinguished Professors are:

- Ann Austin: professor and associate dean for research, Department of Agricultural, Adult and Lifelong Education, College of Education, and assistant provost for faculty development-academic career paths.
- Christoph Benning: MSU Foundation Professor, Department of Biochemistry and Molecular Biology, Department of Plant Biology, College of Natural Science.

CHANGE TO PCARD RECEIPT POLICY

Effective Sept. 1, receipts for Pcard purchases must be scanned and attached to the corresponding eDoc in KFS.

IT CONSOLIDATION COMMITTEE NAMED

Acting President Udpa has named a Blue Ribbon Committee with the goal of furthering the IT integration process.

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EIGHT STAFFERS GRADUATE FROM EXECUTIVE LEADERSHIP ACADEMY

MSU is recognizing the recent graduates of the 2018-19 Executive Leadership Academy, who have spent the past year working to enrich their leadership skills.

Each fellow participated in a weeklong development program at the Center for Creative Leadership that focused heavily on the assessment of an individual’s leadership style. The yearlong experience at MSU supported learning through monthly seminars that ran designed to sustain the experience and facilitate goal achievement and self-reflection. Each seminar provides an opportunity to interact with leaders, network, collaborate and learn that the institution operates at its highest levels. The goal of the program is to deepen and enrich participants’ leadership skills and overall competencies to assist them in their current roles and to prepare them for future opportunities. This year’s graduates include:

- Katherine Cook, director, Sponsored Programs Administration
- Maskanitz Fritz, associate director, REHS Central Administration
- Rekha Khetrapal, financial analyst, University Services
- Angela Knott, IT assistant director, Information Technology Services
- Samantha Lake, assistant director, Solution Center, Human Resources
- Jeff Rayes, director, Treasury and Financial Management

The recent graduates of the 2018-19 Executive Leadership Academy...
Editor's note: Björn Hamberger is an assistant professor in the Department of Biochemistry and Molecular Biology in the College of Natural Science.

The Science Gallery Detroit is the first U.S. representation of a global university-linked network dedicated to public outreach at the intersection of science and art. Exhibitions aim at 15- to 25-year-olds by bridging emerging scientific areas with design and technology. Our team met Mark Sullivan, creative director of the Science Gallery Detroit, for the first time in July last year to explore how we could connect. Our idea was centered on a vision to explain the importance of our research on plant synthetic biology to the public. The deadline for the open call for the Science Gallery Detroit exhibition “Depth” came really fast, and we realized that all our project ideas had been far too complicated to make a convincing pitch.

Retrospectively, this was a lucky moment; we were forced to reduce everything to a single concept, with different facets contributed through collaborations. We were enthusiastic when finally four diverse teams came together: Greg Bonito, an expert in (previously unrecognized wild) diversity in fungal genetic diversity and fascination by the capabilities of ancient lineage fungi; Sarah Evans, who just reported on traveling microbal communities in coastal fog; Todd J. Kijne, audio artist with an exceptional talent to design and build synthesizer systems for transforming digital data into sound; and Bart, that “Fog of Dawn” was born.

This experimental installation explores how fungal species (that live in close proximity with their plant hosts and provide them with nutrients) pulled off the ultimate coup, creating a new habitat — the land. Both organisms still critically on the medium they came from with fungal spores hitching a ride in tiny water droplets for distribution and the mold needing water for sexual reproduction.

The modern impact of the organisms goes far beyond terrestrialization — the colonization of the land by a single organism that we showcase. Both are important for biotechnological applications in the field of synthetic biology, including potential for supporting life in deep space exploration and use of such symbiotic systems in terraforming.

The process of changing a planet’s conditions to make it habitable for humans. Walking into the exhibition and seeing how all exhibits came together was a goosebumps moment. But meeting the team of media workers, who will guide visitors through the exhibition over the course of this summer, triggering questions and fostering discussions, revealed the last piece of the puzzle — how this new kind of synthetic biology works: immersion and interaction.

“Fog of Dawn” is one of 30 installations on display from June 8 to Aug. 17 at the Michigan Science Center.

Guowei Wei is developing artificial intelligence technology to make drug discovery faster and more affordable. 

AI is capable of massively transforming several industries, but its potential for drug discovery is especially exciting. Unfortunately, a number of obstacles stand in the way of advancement. Currently, computers do not have sufficient computing power to discover new drugs. Wei and his team are addressing these challenges through mathematics by focusing on the reduction of the geometric complexity for computers.

Wei is a professor in the Department of Mathematics and researcher in a young field as mathematical molecular biology and bioinformatics.

“Enjoy the rapid advance of new mathematical and deep learning strategies for biomedicine and am excited to see how mathematics will further tackle biological problems,” Wei said.

On average, a new drug takes more than 10 years and $2.6 billion to bring to market. It is, therefore, unprofitable to invest in discovery for rare ailments, and many existing drugs are too expensive. In addition, rare diseases and common conditions have not yet been discovered.

An alternative to current drug discovery that would ultimately nullify these issues is artificial intelligence. Wei and his team have introduced differential geometric and algebraic topology and graph theory to obtain high-level abstractions of protein-drug interactions. This enhances the ability of computers to handle the high dimensionality, structural complexity and large data sets in novel new drug discovery through AI.

We worked with the MSU Innovation Center to obtain his U.S. patent.
Anyone who knows me knows that I love a vacation. I have never met one I didn’t like. For me, the reason is simple: I get quality time with people who are most important to me in my life. We can leave our daily home and work chores, emails or whatever else keeps us busy and just get away.

Starting back at MSU last year, my vacation accrual reset. This was one of the hardest adjustments that I had to make. But, aside from quality time with the ones you choose to spend time with, why do vacations matter?

Research shows Americans work more hours than anyone in the industrialized world. We need to be sure we are taking care of our physical, emotional and relationship health.

Vacations relieve stress. Chronic stress can be destructive to our health.

Vacating or mitigating stress gives us a break and gives that you are going to focus on physical, emotional and mental health. Out-of-office response so you can spend time with, why there are some things you had to make. But, if you have trouble just getting away. Watching people keeps us busy and along the lakes, or whatever else Chicago, walking and retired in 1998.

Vacations strengthen relationships. My family recently went to Chicago to see Hugh Jackman perform, then we spent a day exploring the city, walking along the lakes, watching people and enjoying a free music festival. At the end, we had shared experiences and an appreciation for time spent together.

If you have trouble tuning out the work waiting for you when you return, there are some things you can do. Try to reduce the workload upon your return from vacation. Organize your office before so that you come back to a clean environment. Get through emails before and set an out-of-office response so people know you are away and direct them to someone who can assist them. Set clear boundaries and let your work family know that you are going to focus on the people you are traveling with. If you feel your work-life fit is off track, email worldlife@msu.edu and set up a consultation. We are here to help!

GLOBAL HEALTH FOCUS OF NEW DEGREE

Individuals with interest in global health and development, health policy and related areas can prepare for numerous experiences by enrolling in MSU’s new Master of Science degree and certificate program. It is currently accepting students to begin courses in January 2020.

The online degree in Global Health is a multidisciplinary program offered through the Institute for Global Health.

Students complete 42 credits over two years, including core courses focusing on competencies in management, ethics, evidence-based practice, globalization of health and health care, strategic analysis, capacity strengthening, collaboration and communications.

The graduate certificate program is made up of three courses, and credits are transferable to the master’s program.

“MSU is home to such an incredible depth of experience in research, teaching and service in both health and international development,” said Rebecca Malouin, an MSU associate professor and the program director. “We intend to draw on this wealth of knowledge to provide students with a strong base of applied, multidisciplinary knowledge that they can use in many professional settings.”

Students can participate in a global course in one of nine countries and/or an independent elective at the location of their choosing. Master’s students will also complete a capstone project to demonstrate how their learning could be applied to address a global health challenge.

“There is an immense need for professionals who understand that human health issues are inextricably connected with the environment, animal health and food and water security,” said William Cunningham, director of the MSU Institute for Global Health and an associate dean at the MSU College of Osteopathic Medicine.

To learn more, visit the Institute for Global Health at globalhealth.msu.edu.

VETS USE EXPERIMENTAL FISH SKIN GRAFT TO SAVE A DOG SUFFERING FROM SEVERE BURNS AFTER HOUSE FIRE

Researchers say grafting a dog with fish skin may have helped save her life and could help illuminate the benefit of a new method of animal care. After narrowly escaping a deadly house fire, veterinarians at Michigan State University Veterinary Medical Center say Stella, a 1-year-old Rottweiler, was left fighting for her life. "We had to get creative with her burns because of the significant trauma to Stella’s lungs," said Brea Sandness, a veterinarian and surgical resident at MSU. “She wasn’t a great candidate for anesthesia because of her respiratory injuries.” There was, however, a procedure that Stella could undergo, the veterinarians decided — a new experimental skin graft using decellularized cod skin.

DID ARETHA FRANKLIN LEAVE HER WILL UNDER THE COUCH CUSHION?

“If those documents were all in Ms. Franklin’s handwriting,” said Melanie Jacobs, a professor of law at Michigan State University. “And if it is dated and it seems that there is intent for the documents to be valid regardless of whether it has witnesses or is notarized.”

THE NEW YORK TIMES
go.msu.edu/4PP

SCULPTURES MADE FROM ILLEGAL ANIMAL TRAPS ON DISPLAY AT DETROIT ZOO

The exhibition “Snares to Wares: Capacity for Change” is on view at the Wildlife Intepretive Gallery at the zoo in the Detroit suburb of Royal Oak through March. It includes works created by artisans in Uganda who live near a national park where poaching is a serious problem. The Snares to Wares initiative was created by students and conservationists at Michigan State University to provide alternative sources of income for people who may otherwise turn to poaching. Steel wires are often used to create the traps.

THE DETROIT NEWS
go.msu.edu/4PP

FOR EMPLOYEES

Vacations are an excellent way to recharge and rejuvenate. Here are some tips to make the most of your vacation:

1. Set clear boundaries: Let your colleagues know when you are available and when you are not. This will help reduce the stress of being bombarded with work-related tasks while you are away.

2. Take time for yourself: Use your vacation time to do something you enjoy, whether it's hiking, reading, or spending time with loved ones.

3. Disconnect from work: Set a clear boundary between work and personal time. Turn off work emails and messages during your vacation and focus on the present moment.

4. Plan your return: Have a strategy in place for returning to work after your vacation. This will help you hit the ground running when you return.

Vacations are crucial for our physical, emotional, and mental health. Use them wisely and enjoy the time you have away from work and responsibilities.