UToledo Physicists Awarded $7.4 Million to Rev Up Solar Technology to Power Space Vehicles

By Christine Billau

The U.S. Air Force awarded a team of physicists at The University of Toledo $7.4 million to enhance the reliability and efficiency of lightweight power to improve the safety and effectiveness of Department of Defense missions.

Dr. Randall Ellingson, professor in the UToledo Department of Physics and Astronomy, and the UToledo Wright Center for Photovoltaics Innovation and Commercialization will lead the five-year contract to develop solar technology that is lightweight, flexible, highly efficient and durable in space so it can provide power for space vehicles using sunlight.

Ellingson is applying his persistent dedication to discovery in the fast-growing field of photovoltaics to champion the U.S. armed forces by advancing power generation technologies for space vehicle applications to survive natural and man-made threats.

“Our goal is to protect our troops and enhance national security by accelerating the performance of solar cells,” Ellingson said. “Our primary goal is to reduce the power system payload by developing highly efficient and lightweight technology to replace liquid fuels and minimize battery storage needs.”

In order for the technology to achieve both high efficiency and the flexibility to be used on a curved surface like a wing or fuselage, Ellingson’s team is making tandem solar cells – two different solar cells stacked on top of each other that use two different parts of the sun’s spectrum – on very thin, flexible supporting material.

UToledo physicists have had great success drawing record levels of power from the same amount of sunlight using the tandem technique with what are called perovskites, compound materials.

POWER UP: Dr. Randall Ellingson, professor in the Department of Physics and Astronomy, analyzed the response of solar cells in his laboratory.

UToledo to Launch Kayaking on Campus as Students Are Welcomed Back

By Christine Billau

The University of Toledo is welcoming students for the 2019-20 academic year with the debut of kayaking on campus, newly renovated classrooms, and fun events to celebrate and motivate for a successful, engaging semester.

UToledo President Sharon L. Gaber will roll up her sleeves to help students unpack their belongings and move into their residence hall Friday, Aug. 23, from 10 to 11 a.m. at Parks Tower.

Fall classes at UToledo begin Monday, Aug. 26.

The University will host a ribbon-cutting ceremony to unveil the new kayak launch and pedestrian bridge leading to Savage Arena Wednesday, Aug. 28, at 3:30 p.m. near lot 2 along North Towerview Boulevard.

Introducing Redesigned UToledo News

By Meghan Cunningham

In your hands is the first issue of the redesigned UToledo News to better share your stories aligned with the new Fueling Tomorrows brand.

This weekly printed publication has a more streamlined look, bolder fonts and colors, and a new name – UToledo News. The new name uses the preferred UToledo to distinguish from other universities that go by UT. It also allows us to group together under one UToledo News umbrella all the channels we use to tell our stories – print, online and email.

“We are committed to telling the stories of the incredible things our students, faculty, staff and alumni are accomplishing, giving you a heads up about the exciting events happening on campus and sharing with you the news that impacts you as a member of the UToledo community,” said Dr. Adrienne King, associate vice president of marketing and communications. “The updates we’ve
Employees Reminded to Complete Compliance Training

By Christine Wasserman

All UToledo faculty and staff are reminded to complete their assigned compliance training courses by deadline.

Specifically, 12-month employees should complete their courses no later than Saturday, Aug. 31, and nine-month and part-time employees by Thursday, Oct. 31.

Each employee should complete two courses – Tools for an Ethical Workplace and Bridges: Building a Supportive Community.

Further, Health Science Campus employees and all Main Campus employees who work in clinical areas also are required to complete a third course, HIPAA Update, plus any other course assigned in order to meet Joint Commission and other regulatory requirements.

“The training helps UToledo remain compliant by regularly reminding everyone of performance expectations and practices,” said David Cutri, executive director and chief compliance officer. “Topics include everything from avoiding behaviors that may be a conflict of interest or potentially offensive to others to ensuring the safety of our students, patients, co-workers and guests.”

You may access your courses by logging in to myUT. In the Employee (or Affiliate) tab, under the Training and Career Development section, you will find all courses assigned to you. Or you may access your courses by using the link provided in email reminders you will receive before the deadline.

“Be sure to review the instructions before you begin,” Cutri advised. “And plan about an hour to complete each class. If you need to step away before you finish it, you can return to it later.”

You no longer need to print and send certificates to HR as proof of completion because they’re now auto-populated for UToledo records, Cutri added.

If you have questions or need help accessing your course work, contact Cutri at david.cutri@utoledo.edu or 419.530.8718, or Elliott Nickeson at elliott.nickeson@utoledo.edu or 419.530.3026.

“We appreciate everyone’s help with these training efforts because they really do help the University provide a secure, respectful and inclusive environment for everyone,” Cutri said.

Cutting Loose

Snipping the ribbon at the opening of the Center for Administrative Support Aug. 8 were, from left, Nicole Baden, architect in Facilities and Construction; President Sharon L. Gaber; Wendy Davis, associate vice president and chief human resources officer; and Matt Schroeder, executive vice president for finance and administration, and chief financial officer. The facility is home to nearly 40 employees, including Human Resources and Environmental Health and Radiation Safety. Near the south entrance of Main Campus on Dorr Street, the new location for Human Resources — formerly housed on Scott Park Campus — provides easier access for employees, convenient parking in front of the building, and the opportunity for new hires to see Main Campus as part of their UToledo onboarding experience.

Four-Wheelin’ Fun

Rocksy waved to the crowd from the blue Wrangler and Rocky pointed to fans during the Jeep Fest Parade Aug. 10 in downtown Toledo.
New Soccer Field on Main Campus Named for Alumus/Donor

By Kaitlyn R. Layman

The University of Toledo announced the new soccer field on Main Campus will be named Paul Hotmer Field in honor of UToledo alumnus and donor Paul Hotmer.

With this new field, the women's soccer team will play on the University's Main Campus for the first time since 1996. From 1997 to 2018, the Rockets played their home matches at Scott Park.

Paul Hotmer Field will host its first match Thursday, Aug. 29, when the Rockets take on the Flames from the University of Illinois at Chicago. The match is set to begin at 7 p.m. with a dedication ceremony to take place prior to kickoff.

Paul Hotmer Field is located inside of the outdoor track on Main Campus and features a state-of-the-art Field Turf playing surface. The facility includes spectator seating on the east side, energy-efficient lighting, and a videoboard on the north end of the field.

"We are extremely grateful to Paul Hotmer for his generous gift to help us bring the Toledo women's soccer team to Main Campus," said UToledo Vice President and Athletic Director Mike O'Brien. "Paul has been an avid supporter of Rocket athletics for many years, and his contributions to the department have had an exceptionally positive effect on the experience of our student-athletes."

A native of Toledo, Hotmer is a two-time graduate of UToledo's College of Engineering; he received a bachelor's degree in mechanical engineering in 1955 and a master's degree in industrial engineering.

Bob Nichols Court in Savage Arena to Feature New Design

By Steve Easton

The University of Toledo's Savage Arena will feature a new design on Bob Nichols Court for the upcoming men's basketball, women's basketball and women's volleyball seasons.

The design change to the court is the first since a slight modification in 2013 from the original surface when the new Savage Arena debuted in 2008. The entire process took approximately two weeks and was performed by a Toledo-area business, Robert's Floors.

Originally known as Centennial Hall when it was built in 1976, the arena was renamed Savage Hall in 1988 and then became Savage Arena in 2008 as part of a $30 million renovation project. With that project, the facility was expanded to include the adjoining Sullivan Athletic Complex.

"I think the court looks phenomenal. It looks clean. It looks bright. It looks fresh," Head Men's Basketball Coach Tod Kowalczyk said. "I know our players are really excited about it, and I think the community will absolutely love it."

"I love the new, clean and sleek look of the floor," Head Women's Basketball Coach Tricia Cullop said. "I appreciate the fact our administration is always looking for ways to enhance and improve our already first-class facility."

"Everything Toledo does is top-notch, and the new court design is no different. I think it looks terrific," Head Women's Volleyball Coach Jason Oliver said. "Savage Arena is an amazing venue, and the new court design will be a great focal point for both spectators and recruits."

The women's volleyball program will open its 2019 season in Savage Arena when it holds the Blue & Gold Tournament Friday and Saturday, Aug. 30 and 31. The Rockets also will host the University of Indianapolis in an exhibition match Saturday, Aug. 24.

To purchase tickets for volleyball and men's and women's basketball, visit the Rocket Athletic Ticket Office at the Sullivan Athletic Complex in Savage Arena, contact the Rocket Athletic Ticket Office at 419.530.GOLD (4653), or go to utrockets.com.

UToledo employees can purchase tickets at half price; and UToledo students are admitted free with ID.

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A new study by the Jack Ford Urban Affairs Center at The University of Toledo focuses on poverty in Toledo and Lucas County using different lenses and sheds new light on who is struggling in our area and why.

Toledo City Council commissioned UToledo experts to prepare the report and offer recommendations based on successful practices demonstrated in other cities.

“Our goal is to provide a more nuanced understanding of poverty and encourage targeted collaboration,” said Dr. Sujata Shetty, professor in the UToledo Department of Geography and Planning, interim director of the Jack Ford Urban Affairs Center, and lead researcher on the report. “Thank you to Toledo City Council and the city of Toledo for the opportunity to do this critical work, which we hope will be useful to the city, spark meaningful change, and help families.”

The report examines housing affordability, educational attainment, employment, cost of living and other factors associated with poverty, as well as geographic areas that show relatively higher concentrations of poverty and related characteristics.

“We care deeply about the community and are proud to be Toledo’s university,” UToledo President Sharon L. Gaber said. “As a public institution, the heart of our mission is to use our expertise and knowledge to improve lives.”

The study’s findings using 2017 data include:

- 26.5% of residents in the city of Toledo lived below the federal poverty level, compared to 19% of Lucas County residents.
- 32.3% of the city’s residents had a high school diploma as their highest educational attainment.
- 48% of city residents are renters, and 52% own their home.

The report also offers solutions that other cities found to be effective in fighting poverty and helping families.

Those anti-poverty initiatives include:

- Cincinnati’s “Hand Up Initiative,” which provides people in dire need with training opportunities and gets them back to work into jobs with higher pay through partnerships with organizations and corporations, focused on fields such as truck driving, construction and home-care aid.
- St. Paul’s “Job Opportunity Fund,” which offers $500,000 in low-interest loans to spur job creation and retention by supporting business ventures in defined areas of concentrated poverty.
- Lancaster’s “Commission to Combat Poverty” and “One Year Strategies,” which resulted in the creation of nine functioning “action teams” that focus on a particular segment of the poverty challenge, such as jobs action, food security, education and data analysis.
- Rochester’s “Kiva Rochester Crowdfunded Loans Program,” where residents can apply for loans ranging from $1,000 to $10,000 with 0% interest and no fees. The fees are crowdfunded, and the loans are for small business owners looking to create jobs by performing renovations, paying training fees, and buying new equipment.

Several UToledo graduate students assisted on this project, including Alex DiBell, who is pursuing a master’s degree in geography and planning while working as a policy intern for Toledo City Council, and Ph.D. students Brittany Jones and Philemon Abayateye.
Ceremonial Recognition

First-year medical student Samar Ayoub received her white coat from Dr. Michael McCrea, president of the UToledo College of Medicine and Life Sciences Alumni Affiliate and 2004 graduate. Ayoub was among 175 medical students who were cloaked and recited the pledge of ethics at the Aug. 9 ceremony in the Lois and Norman Nitschke Auditorium. A total of 76% of the new students are Ohio residents, and nearly one-third are from northwest Ohio.

Celebrating UToledo

Rocky gave high-fives to campers at the UToledo Early Learning Center Aug. 6 on Rocket Pride Day. Located at 1932 Birchwood Ave., the center offers care for children from 5 to age 10 during the summer and infants through preschool year round. To learn more about the programs accredited by the National Association for the Education of Young Children and Ohio’s Step Up to Quality, go to utoledo.edu/centers/earlylearn.

Physicists

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with a special crystal structure formed through chemistry.

“The University of Toledo is a worldwide leader driving innovation in photovoltaics research, education and application,” Congresswoman Marcy Kaptur said. “This critical collaboration with the U.S. Air Force strengthens national security and fuels a cleaner energy future for generations to come.”

UToledo’s flexible, lightweight, low-cost technology will be tested under space-like radiation exposure.

“In outer space, the radiation environment is much more harsh, where high-energy photons and particles, arising from both our sun and our galaxy, can damage the solar cells,” Ellingson said.

“We are proud our photovoltaics team at The University of Toledo has been selected once again to use its state-of-the-art expertise to advance Air Force missions in service to the nation,” Dr. Frank Calzonetti, UToledo vice president for research, said. “This major award demonstrates the high regard the U.S. Air Force has in The University of Toledo’s solar energy research capabilities and the confidence in our research team. Dr. Ellingson has performed exceptionally well in meeting the high demands of the Air Force in providing research that supports the nation’s defense posture.”

For more than three decades, The University of Toledo has focused with precision on the potential of photovoltaics to transform the world and improve sustainability to combat the energy crisis.

Harold McMaster, an inventor and namesake of UToledo’s McMaster Hall, pioneered the vision for commercializing solar energy in northwest Ohio and donated funds to UToledo to gather great minds and craft solutions.

One of the world’s largest manufacturer of solar cells, First Solar, originated in UToledo laboratories.

The University created the Wright Center for Photovoltaics Innovation and Commercialization in January 2007 with $18.6 million in support from the Ohio Department of Development, along with matching contributions of $30 million from federal agencies, universities and industrial partners. The center works to strengthen the photovoltaics and manufacturing base in Ohio through materials and design innovation.
Racing Internship With Hendrick Motorsports Fuels Dreams

By Michael Day

In spring semester, I moved down to Charlotte, N.C., with the opportunity of a lifetime to work for one of the top teams in American racing, Hendrick Motorsports.

As a young person interested in cars, every Sunday I had watched their four NASCAR Cup Series racecars compete with others on tracks across the country. It is that passion that directed my educational goals to become a mechanical engineer in the hopes that I could play some role in the automotive industry. Although I had such a strong desire, I never believed that I would have the opportunity to work in professional racing, let alone a team of this pedigree.

As you enter the Hendrick Motorsports race shops every morning, the front lobbies are lined with race and championship trophies. Hendrick Motorsports has more championships than any other team in NASCAR history, and more than 250 race wins in NASCAR’s top series. Every day this reminded me of the high expectations of cleanliness, hard work and results that are expected in order to achieve success in each race.

The group of engineers that I worked with oversaw the recording and distribution of data to each of the four race teams that compete every weekend. This information is crucial for their performance throughout the race weekend. Some of this information is gathered right before the cars leave for race weekend on a suspension rig; this was an area where I spent most of my time. It was a very surreal feeling to be wrenching on cars that would take to the track in front of millions the following weekend!

Another type of lab test we performed is on a seven-post machine, where the car was bolted down to hydraulic actuators that mimic the road and aerodynamic inputs on the vehicle throughout a lap. This allowed us to test new theories as we prepared for upcoming events.

However, real track testing is still the most valuable. Because of this, I was able to join the team on a two-day tire test during my internship. This exposed me to the extensive data systems that are used in the cars for testing, as well as the unique goals that were set in order to record data that we could use at that track for the race weekend.

I also was able to experience a variety of areas throughout the rest of the shop; these included building shock absorbers, post-race car teardowns, and assisting the race engineers with various reports throughout the week. Above all, I was impressed with the high work ethic and attention to detail that every employee showed day in and day out.

This was my fourth co-op at The University of Toledo, and I don’t believe that this opportunity would have become available without the experience gained and growth that took place throughout my previous internships in the automotive industry. Over the past four years, UToledo has given me the power to grow my skills and the ability to truly capture my dreams.

Day is a senior majoring in mechanical engineering.
Soccer Field
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engineering in 1961. In the past, Hotmer has made donations to the University and to the athletic department, including the Chapman Basketball Complex Lobby, the Sullivan Athletics Complex in Savage Arena and the Hotmer Hydrotherapy Center in the Larimer Athletic Complex.

“When considering the soccer team’s relocation to the Main Campus, it stirred my emotions in wanting to be part of this project,” Hotmer said. “I was impressed by the professionalism of everyone I encountered during this journey. They worked hard and were very conscientious about the quality of their work. It is a great honor and privilege to have the opportunity to be associated with this development. It will serve as a legacy for my family and me, and as an incredible boost for the soccer program, the athletics department and the University.”

The installation of the soccer field will assist in Toledo’s already proven home-field advantage, with the Rockets claiming a 132-77-14 home record during its 24-year history. The women’s soccer team has won five MAC Tournament titles, most recently in 2017.

The Rockets are scheduled to host nine home matches this season, beginning with the home opener Aug. 29.

Tickets are $6 and $4 for 18 and younger; UToledo employees can purchase tickets at half price; and UToledo students are admitted free with ID. Go to utrockets.com or call 419.530.GOLD (4653).
Students Welcomed Back

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“We look forward to the return of the energy and excitement that students bring to a new academic year,” Gaber said. “With the addition of Lime scooters last year and now kayaks, we are offering a variety of fun ways for students to enjoy our beautiful campus and community.”

Recreational Services will provide kayaks, paddles, life vests and helmets from 10 a.m. to 6 p.m. seven days a week. Kayak rental is free with a membership to the Student Recreation Center.

Soccer games are returning to Main Campus for the first time in 23 years. A dedication ceremony for the new soccer field – Paul Hotmer Field – will be held prior to kickoff of the first match Thursday, Aug. 29, at 7 p.m. when the women’s soccer team takes on the University of Illinois at Chicago.

Three new active learning centers are opening on the second floor of the Snyder Memorial Building this fall semester and one in Gillham Hall. These technology-rich classrooms are designed to allow students to collaborate with each other, share work in progress, get rapid feedback, and provide instructors with access to all parts of the classroom.

UToledo renovated the auditorium in McMaster Hall over the summer and eight classrooms in Stranahan Hall. Two of those are computer labs for the College of Business and Innovation, and six are general purpose tiered classrooms.

New Rockets will be welcomed to UToledo at the New Student Convocation Sunday, Aug. 25, at 4 p.m. in the Glass Bowl (rain location: Savage Arena) when Gaber and faculty and staff members will greet new students and talk about what it means to be a Rocket. The event will be followed by a barbecue in the Flatlands.

During the first few weeks of classes, the Office of Student Involvement and Leadership in the Division of Student Affairs has planned a number of events to encourage students to meet new friends, have fun, and learn about the University.

The events to welcome students to the new school year include:

Friday, Aug. 23
- Paint Party, 8 p.m., the Flatlands. Students are invited to dance, paint and make new friends. This event is sponsored by Campus Activities and Programming.

Saturday, Aug. 24
- Bonfire, 8 p.m., the Flatlands. The Resident Student Association hosts this annual tradition that includes pizza.

Monday, Aug. 26
- Sundae on a Monday with President Gaber, 4 p.m., Centennial Mall. Meet the president and snag some free ice cream.

Wednesday, Aug. 28
- Student Involvement Fair and Part-Time Job Fair, 11 a.m. to 2:30 p.m., Centennial Mall. Rain location: Thompson Student Union Auditorium and Rooms 2582 and 2584.

Thursday, Sept. 5
- Career Services and Office of Student Involvement Open House, 11 a.m. to 1 p.m., Thompson Student Union Rooms 1532 and 1533.

Tuesday, Sept. 10
- President’s Backyard BBQ, noon to 2 p.m., Centennial Mall. Rain location: Health Education Center.
- Pep Rally, 12:30 p.m., Centennial Mall, Thompson Student Union Steps.

Saturday, Sept. 14
- President’s Tailgate, 4:30 to 6:30 p.m., grass area north of Rocket Hall. Students are invited to meet President Gaber. Stop by for free food before the UToledo-Murray State football game.
- Toledo vs. Murray State, 7 p.m., Glass Bowl. Students are admitted free with their Rocket ID; faculty and staff can buy tickets half price with ID. Go to utrockets.com or call 419.530.GOLD (4653).

For a full list of events, go to u Toledo.edu/studentaffairs/welcomeweek.

Start your year off right and get to know The University of Toledo!

WELCOME WEEKS 2019
AUG. 22 – OCT. 6

Check out these highlights and see u Toledo.edu/studentaffairs/welcomeweek for all the great events we have planned!

SUNDAY, AUG. 25

NEW STUDENT CONVOCATION
4 p.m.
Glass Bowl Stadium
Come together to celebrate the beginning of your UToledo journey.

CONVOCATION BARBECUE
Directly following convocation, come to the Flatlands for food, music, fun and friends.

JAM SESSION
6 - 10 p.m.
Thompson Student Union Stairs
Don’t miss the Greek organizations of the National Pan-Hellenic Council as they present their chapters – and gear up for the first day of classes!

MONDAY, AUG. 26

SUNDAY ON A MONDAY
4 – 5:30 p.m.
Centennial Mall

FRIDAY, AUG. 30

ROCKETS IN THE CITY!
5:30 p.m.
Come downtown and experience a Hensville block party, a Mud Hens baseball game with fireworks, and an after concert with Arctic Clam and the Amelia Airharts. To get back home to campus, hop on a free TARTA bus by 10 p.m. or call a car service.