

Affordable solar power is focus of new research

By Kevin Bucher

Dr. Brandon Cohen, associate lecturer of management who specializes in business law and entrepreneurship, has been awarded a \$1 million grant to research and develop a new low-cost solar panel that can be used on residential homes.

During the next five years, Cohen and his team will develop a “plug-and-play” photovoltaic (PV) system that will be more efficient and cost-effective in generating electrical power by converting solar radiation into direct current electricity.

This proposed system operates like any other solar panel; however, it is smaller in size, has a less-invasive installation process, and uses less-expensive materials.

“Aluminum, for example, is heavy and it’s expensive, but it survives bad weather and is durable,” Cohen said. “We might

be able to use composite materials that are lighter, stronger and cheaper.”

Cohen and his team of students plan to take what exists and develop a system that anyone can assemble and install on their homes, simplifying the current process that includes getting a permit and hiring professional installers.

“Our goal is to bring a new product to the market that will become a standard for the industry,” Cohen said. “I worked with solar before and I saw an opportunity here to make a better product, so I jumped on it.”

UT has partnered with North Carolina State University, the National Rural Electric Cooperative Association, Quanta Technologies, Isofoton North America and ABB in an effort to develop this technology.

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Photo by Crystal Hand

UP ON THE ROOF: Dr. Brandon Cohen showed the model roof used to test the installation of residential photovoltaic systems in an effort to make solar power more affordable.

UT to host Discovery Channel Telescope advisory board

By Tobin J. Klinger

The University of Toledo will play host to representatives from the Lowell Observatory in Flagstaff, Ariz., and other partners in the Discovery Channel Telescope project during a special meeting Tuesday, Nov. 19.

The Lowell Partners’ advisory board meeting will bring together the entities involved in the Discovery Channel Telescope project and related facilities. In addition to UT, academic partners are Boston University, the University of Maryland and Northern Arizona University.

“We are delighted to host this prestigious group,” said Dr. Karen Bjorkman, dean of the College of Natural Sciences and Mathematics and one of two UT delegates to the board. “We have had several opportunities already to make use of the excellent technology at the Discovery Channel Telescope, and we’re looking forward to talking with our peers and colleagues about future strategies for maximizing the scientific and educational potential of this wonderful resource.”

UT became a part of the consortium operating the Discovery Channel Telescope in June 2012. The 4.3-meter telescope is often referred to as the “Swiss Army knife” of research telescopes, with advanced capabilities, including rapid switching between the sensitive cameras that collect astronomical data.

“Our astronomy program, though small, is strong and internationally recognized, and our partnership with the Discovery Channel Telescope has already provided us with significant new opportunities to expand and advance our research,” said Dr. J.D. Smith, associate professor of astronomy and UT delegate to the board. “By hosting this group, we have a chance to showcase not only our department, but also the University and the community.”

The day-and-a-half-long visit will begin with a special welcome from President Lloyd Jacobs.

Autumnal spotlight



Photo by Crystal Hand

Photography intern Crystal Hand took this shot of fall foliage by the Glass Bowl earlier this semester.

Postdoctoral fellow receives Young Investigator Award

By Samantha Watson

Dr. Mithun Khattar, a postdoctoral researcher at The University of Toledo, has identified a molecule that could improve the lives of patients with Type I diabetes and organ transplants.

His work led to his selection as a winner of The Journal of Immunology Young Investigator Award for the 15th International Congress of Immunology. Khattar was one of four people chosen for the award out of more than 4,000 abstracts submitted to the congress from all over the world.

Khattar, who received his PhD from UT in 2012, has been doing postdoctoral work in the Department of Medical Microbiology and Immunology since graduation. It was there he discovered that inhibiting a particular molecule caused significant improvements in immune responses to Type I diabetes and organ transplants.

He said immune responses occur in two ways — an acute response occurs spontaneously against a foreign body until it is cleared, while a chronic response is ongoing. Chronic responses occur in diseases such as HIV or Type I diabetes, and also when the body has a transplanted organ, which is what his lab focuses on.

“During transplantation, a foreign body is always there and the immune cells are constantly exposed to this foreign body,” Khattar said. “At least half of transplant

recipients lose their transplants because of the persistent immune attack, also known as chronic rejection.”

Khattar’s work in the lab of Dr. Stanislaw Stepkowski, professor of medical microbiology and immunology, has identified different molecules that are associated with each immune response. They have since discovered that removing or inhibiting the molecule associated with chronic immune responses can cause significant improvements in Type I diabetes and organ transplants.

Moving forward, Khattar hopes to use this knowledge to create new therapies to replace insulin injections in patients with Type I diabetes. He also hopes to create therapies for transplant patients in the hopes of reducing the failure of transplanted organs.

The Journal of Immunology Young Investigator Award recognition for his work paid for Khattar’s travel expenses to go to the Congress of Immunology held in August in Milan, Italy, where he had the opportunity to present his work.

“To me, this means much more than just traveling,” Khattar said. “This lets people know what we do here and gives us assurance from the scientific community that we are on the right path and what we are doing is important.”



HONORED: Dr. Mithun Khattar received The Journal of Immunology Young Investigator Award from Dr. Kaylene Kenyon, publication director at the editorial office of the American Association of Immunology.

Dinner recognizes science teachers receiving master’s degrees in biology

By Samantha Watson

The University of Toledo recently celebrated the end of a four-year grant that helped 20 local science teachers become scientists.

In 2008, the University received a \$940,000 grant from the U.S. Department of Education that was matched by UT to provide scholarships for two cohorts of science teachers to gain additional science expertise through UT’s Inquiry Master’s Program Advancing Content for Teachers, known as IMPACT.

“You don’t learn science by reading about science, you learn science by doing science,” said Dr. Daryl Moorhead, UT professor of ecology and co-principal investigator for the grant. “The idea behind this program was to give them that extra bit of training to look at the world as a scientist and not only as a teacher.”

IMPACT gave these teachers the opportunity to receive a master’s degree in biology in two years, with all costs of the program covered by the grant. Most of the

first cohort has graduated, with one student continuing her studies, and the second cohort group is set to graduate in December.

Most of the teachers who participated in IMPACT came from Toledo Public Schools — Scott High School, Waite High School, Toledo Early College High School, Start High School, Phoenix Academy, Bowsher High School and Rogers High School. There also were teachers from seven schools outside the Toledo district.

“The IMPACT program helped science teachers increase both their science content knowledge as well as their ability to teach that knowledge to students,” said Dr. Charlene Czerniak, Distinguished University Professor of Science Education and co-principal investigator of the grant.

Participants in the IMPACT program were recognized for their hard work and dedication to teaching with a reception dinner in September.

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Look for the next issue of UT News

Dec. 2

UT teams up with Padua Center to mentor area children

By Kevin Bucher

The University of Toledo women's basketball team partnered with the Padua Center to mentor children as part of the BE A ROCKET Program.

"I love getting our players involved in the community, especially when we can help young kids," Head Coach Tricia Cullop said. "Hopefully through the sports connection, our players can help inspire the kids at the Padua Center to do their best in the classroom and beyond."

BE A ROCKET is an acronym for topics the players shared with the students at the center: bullying, education, attitude, reading, opportunity, character, knowledge, exercise and teamwork.

The center offers an after-school tutoring program for students in

kindergarten through eighth grade every Tuesday and Thursday from 3 to 4 p.m., and the BE A ROCKET Program with Cullop and players from the team followed from 4 to 5 p.m. from Sept. 17 through Oct. 10. The players mentored the children and reinforced the tutoring they received.

Terry Crosby, the education director at the Padua Center, approached the coach to see if the players would be willing to get involved.

"Our players were more than happy to help," Cullop said.

"We have been receiving some great feedback from the partnership, so we are glad to hear the kids responded positively to this," Cullop added.



VICTORY IN THE CLASSROOM: Junior guard Brenae Harris worked with children at the Padua Center this fall.

Solar power

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This collaboration was given a five-year, \$9.2 million grant from the U.S. Department of Energy, of which UT was awarded \$1 million, to reduce the cost of installing residential PV systems to \$1.50 per watt.

In 2012, the median price range to have a residential PV system installed ranged from \$5.30 per watt for small systems to \$4.60 per watt for systems larger than 100 kilowatts.

"We want to reduce the cost of the overall system so we get it to a price where everyone in America would want one, get it

so affordable that you'd be dumb not to do it," Cohen said.

Undergraduate students working with Cohen on the project have constructed a model roof and installed solar panels to see how long the process would take. They also have helped with the design of the panels.

"Academia is great; it helps you train your mind, but at the end of the day, you won't understand what you learn until you get out there. This is giving [students] a real opportunity to understand the innovation process and how to actually be involved in it," Cohen said.

Exploring the capital



The UT Explorers, shown here in front of the White House, took the second annual educational tour of Washington, D.C., earlier this semester. The group — 23 international students from six countries, four American students and four UT staff chaperones — spent five days in the city visiting historical sites, including the Lincoln Memorial, the Washington Monument, Arlington National Cemetery, the Dr. Martin Luther King Jr. Memorial and the Smithsonian. The price for this year's excursion was \$200 each. This annual experience is open to all UT students and takes place each fall break. Learn more about UT Explorers at <http://utole.do/explorers>. The team works to enhance the linguistic and cultural competencies of students and scholars while promoting a culture of lifelong learning through opportunities to develop global citizenship.

In memoriam

Maurice "Mort" Edgington, Ottawa Lake, Mich., who worked at the University 25 years, died Nov. 11 at age 88. He joined UT in 1966 as an instructor in commercial studies. Six years later, he was named assistant professor of business technology and coordinator of Transportation and Physical Distribution Technology in the former Community and Technical College. Edgington was named associate professor in 1976 and professor in 1991. He also served as coordinator of Retail Management Technology, as well as Transportation Management. Edgington retired in 1991.

Shirley H. Ignasiak, Toledo, died Nov. 13 at age 80. She was a nurse at MCO from 1979 until her retirement in 1991.

Paul R. Reineck, Toledo, died Nov. 9 at age 62. He was a lab worker at the hospital from 1977 until his retirement in 2012.

Grad students win ethical competition, publish article in American Counseling Association online journal

By Kevin Bucher

A group of graduate students had their ethical dilemma article published in the American Counseling Association's VISTAS 2013 online journal after taking first place in an ethics competition last summer.

Robin Dufresne, Jill Haar, Andrew Intagliata and Nicole Rybarczyk, all master's degree students in the Department of School Psychology, Higher Education and Counselor Education last year, used an ethical decision-making model to break down a situation and wrote what they thought were the most important parts to focus on and how to resolve them ethically.

The group was given the scenario in October 2012 and had until the first week of December last year to complete its work.

"Our scenario was about a counselor who was seeing two young boys whose parents were divorcing. The parents had joint custody, but the mother had physical custody," Dufresne said.

"The children reported that their father was locking them in a closet and had hit them. They did not want the counselor to tell their parents. The counselor chose not to report the incident; a few weeks later, the father requested the records, and the mother asked the counselor to testify in the custody hearing."

The team determined three central issues: reporting suspected child abuse, a request to testify in a custody hearing, and the release of records to parents.

After addressing these concerns, the group used an ethical decision-making model to frame their arguments.

They argued that the male counselor should have reported the suspected abuse when the children told him about it. Additionally, the students argued that the counselor should have explained to the mother that he cannot serve as a witness in the custody hearing as he has no information

to provide regarding who would be the better parent.

Out of 48 submissions and teams competing from across the country, the UT group was victorious. The students were sponsored by Dr. Nick Piazza, UT professor of school psychology, higher education and counselor education.

"We are extremely grateful to Dr. Piazza for all the support he gave throughout the whole process," Dufresne said.

"The faculty of the UT Counselor Education Program is immensely proud of these four students," Piazza said. "They are serious scholars and professionals who deserve every accolade for what they have accomplished. It was a privilege to sponsor them."

"I feel very proud. I've never been published before, so it's very surreal," Intagliata said. "At first I didn't know how to feel, but now I realize how much of an

honor it is. And it's great for the University that we were the first master's team to enter and ended up winning. I think that reflects well on us and our program. And it's great for us to be able to say we're all published authors."

UT doctoral students have competed before and in 2008 took first place, but this was the first time University master's degree students argued and won.

Intagliata, who graduated in May, is a first-year doctoral student at UT, as is Dufresne, who graduated in December.

Rybarczyk graduated in May and is employed at Unison Behavioral Health Group, and Haar works at Harbor Behavioral Healthcare after graduating in May.

"I feel a little more prepared being out there and being a counselor," Haar said. "Knowledge of ethical practice increases my confidence."



Photo by Crystal Hand

FOOTPRINT: Jacqueline Zibbell, clerical specialist in the operating room, checked out tiger-striped flats at the Satellites Auxiliary's recent 43-hour shoe sale in the Four Seasons Bistro Atrium at UT Medical Center. Approximately \$2,400 was raised for scholarships, according to Lynn Brand, president of the Satellites Auxiliary.



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UT Opera Ensemble, UT Symphony Orchestra to present Copland's 'The Tender Land'

By Angela Riddel

The University of Toledo Opera Ensemble, in a collaborative performance with the UT Symphony Orchestra, will present Aaron Copland's opera, "The Tender Land," Friday through Sunday, Nov. 22 through Nov. 24, in Doermann Theater.

Performances will be at 7:30 p.m. Friday and Saturday, and at 3 p.m. Sunday.

Copland composed the music for "The Tender Land," with libretto by Horace Everett. His score was inspired by the photography of Walker Evans, who captured the bittersweet experience of the Depression-era farm family, as well as by the book titled *Let Us Now Praise Famous Men* by James Agee, which featured Evans' photos.

The story of "The Tender Land" centers on Laurie, an ambitious young woman who comes of age during the Depression. Transformed from girl to woman by her first experience of love, Laurie discovers something she prizes more than love: freedom.

"Part of the reason we choose [this opera] is because of its Midwest setting and its accessibility for young singers," said

Dr. Denise Ritter Bernardini, assistant professor of music, director of the UT Opera Ensemble and producer of the production. "Since the work itself is fairly short in comparison to other operas, it is a good choice for a growing university opera and orchestra program."

In reviewing the work for his website, USOpera.com, which is dedicated to American operas and their composers, Christopher Hapka wrote, "'The Tender Land' was commissioned from Copland by Richard Rogers and Oscar Hammerstein II. Copland's second opera is a much more mature work than the earlier 'The Second Hurricane.' Written for young singers, the work contains some of the best music of Copland's mature years and deserves a greater place in the repertory. A number of recent recordings will hopefully help to raise its status among 20th century opera.



Photo by Walker Evans

MOVING PHOTOGRAPHY: Aaron Copland was inspired by photos by Walker Evans, like this one titled "House, Hale County (1935 or 1936)," to compose the opera, "The Tender Land."

The closing chorus of Act 1, 'The Promise of Living,' is often excerpted and sung by choruses."

Copland revised the opera extensively, changing it from two acts to three. This version was released in 1955 and is the

version The University of Toledo Opera Ensemble will perform.

Tickets are \$10 and \$8 for students and seniors. They can be purchased online at utoledo.edu/boxoffice, by calling 419.530.2375, or by visiting the Center for Performing Arts Box Office.

UTMC custodian pens poetry book

By Khyara Harris

Derrick Hamilton has always had a passion for poetry, but he mostly kept it to himself. That changed in 2010 when he attended a function at the Rock Church and sat in on a sermon being led by the Rev. Michael Shakespeare.

"He had said that there were writers among the congregation and that we needed to share our gift," said Hamilton, who has worked for six years as a custodian at The University of Toledo Medical Center.

It was this moment that changed Hamilton's attitude toward his poetry, and he decided to self-publish his first book, *My Life and Times That Happen to Rhyme*.

"I was inspired to write the book because a collection I started in high school began to grow to a large quantity, and I wanted to get them out to the world," he said.

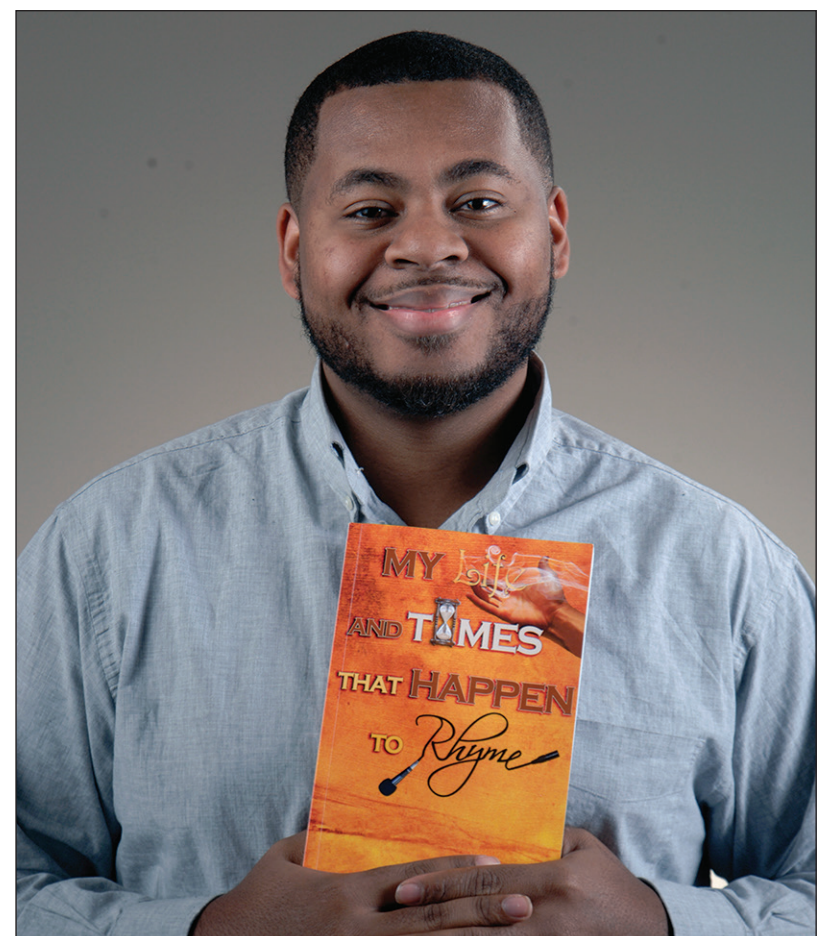
Hamilton worked alongside his friend LaToya Williams and his pastor, the Rev. Richard Brown III, to turn his dream of a poetry book into a reality.

"My key purpose for the book was to show people in multiple situations a positive point of view," he said. "I knew that there were a lot of people who had the same struggles I had, and I wanted to uplift them with my story."

The book is split into four sections: *My Life*, *My Times*, *My Happenings* and *My Rhymes*. Each details Hamilton's life through various poems he's written and music lyrics he's penned. The poems touch upon Hamilton's struggle to become a man as well as his marriage. There also are poems inspired by the stories of others.

Hamilton's poetry collection is available via Amazon and is sold through Barnes & Noble online stores as an ebook and paperback.

He is working on his second work, a children's book titled *Mystery Gifts*.



Derrick Hamilton with his book, *My Life and Times That Happen to Rhyme*

International Village



Tess Gao, left, and Laura Deza of the UT Filipino American Association served up a sweet treat last week at the International Village, which was part of International Education Week.



Photos by Crystal Hand

Offering Rice Krispies Treats wrapped up like sushi at the International Village were, from left, Crystal Esquilin, Neil Gleim and Scott Corsi of the Japanese Student Association.

UT employees may schedule graduate photos

Faculty and staff or members of their families who will graduate from UT in December may contact the University Communications Office if they wish to have a photo taken and published in UT News.

Call Laurie Flowers at 419.530.2002 to schedule an appointment before Friday, Dec. 20.

Photos will appear in an upcoming issue of the paper.



Photo by Daniel Miller

WELCOME TO PAKISTAN: Saadia Farooq, International Research and Exchanges Board student, led an interactive session on Pakistan last week. She discussed the country's culture and lifestyle, while those in attendance had the chance to experience the art of henna, Skype with locals, and learn a traditional dance. The event was part of International Education Week.

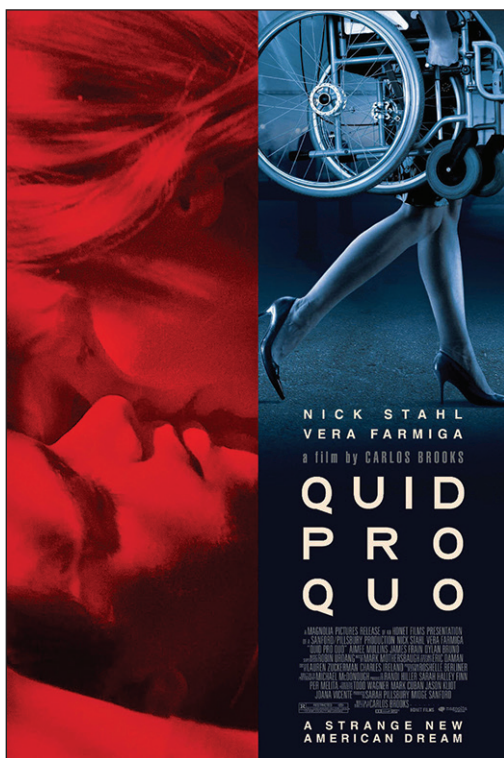
Disability Studies Program to show 'Quid Pro Quo'

The UT Disability Studies Program will screen the film "Quid Pro Quo" Wednesday, Nov. 20, at 7 p.m. in Memorial Field House Room 2100.

"Quid Pro Quo" is a psychological thriller about Issac, a paraplegic and popular New York City public radio reporter who is investigating a story from an anonymous source about a man who walked into a hospital demanding that his leg be amputated.

Issac meets a mysterious femme fatale (played by Academy Award nominee Vera Farmiga) while working on this story and discovers a curious subculture of "wannabes" — nondisabled people who seek to transform themselves by amputation.

For more information on the free, public screening, call the Disability Studies Program at 419.530.7244.



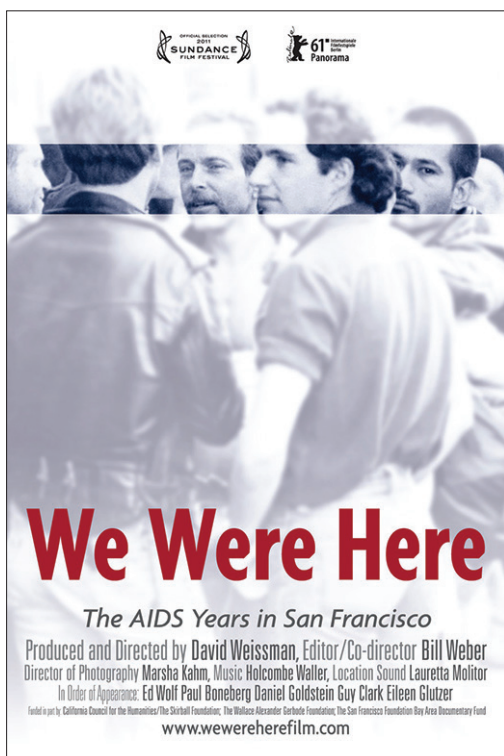
Documentary to be screened in honor of World AIDS Day

"We Were Here" will be shown Monday, Dec. 2, at 6 p.m. in the Center for the Visual Arts Haigh Auditorium on UT's Toledo Museum of Art Campus.

The documentary by David Weissman and Bill Weber takes a reflective look at the arrival and impact of AIDS in San Francisco in the early 1980s.

The Toledo AV Club and the Launch Pad Cooperative are partnering with the UT Medical Center's Ryan White Program to present the film in honor of World AIDS Day, which is Dec. 1.

The free, public screening of the 90-minute documentary will be followed by a discussion led by members of the Ryan White Program who are long-term survivors of the disease.



UTNEWS

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