

BIOLOGY NEWS

DEPARTMENT OF BIOLOGICAL SCIENCES

SPRING 2024

Dear friends,

To simply depict a rosy picture of The University of Toledo is just like an ostrich burying its head in the sand. On the other hand, not recognizing and broadcasting our strengths in STEM research and education may only aggravate the situation and do no good for this 150-year-old institution, invigorated again and again by its faculty, staff and students throughout history.

At the department, we did have to face reality, but we also filtered out noise and focused more on what we do well: providing excellent educational experiences to our students. This has been made possible by engaging with students, parents and potential employers to understand their needs, by continuing to maintain our research infrastructure and funding, and by keeping our undergraduate and graduate programs and curricula modern.

In the past spring semester, sophomore student Sophia Durham won the prestigious Barry Goldwater Scholarship (see story inside). In 2024, this premier undergraduate scholarship for STEM students was only awarded to 438 scholars in the entire nation. Sophia joined Derek Kluczynski, who won the scholarship in 2023 as a junior in the department and has joined our graduate program starting in the summer. Inside, please also check out another student success story featuring Peter Tsatalis, who followed his older sister Andrea to attend the UToledo pre-dental program and just graduated summa cum laude with a B.A. in biology degree. For an example of how we still encourage the well-rounded development of our students, please read



the story of Sajan Shah and his work with Project Sunshine.

On a recent Experience Day tour, a father and daughter from Cincinnati told me how happy they were about directly talking to professors face-to-face, visiting research labs, and seeing cool ongoing experiments. "We were blown away by your colleagues' enthusiasm and dedication! Professors come in on a Saturday to talk to visiting families. Very impressive! We did not have that on any other campuses we have visited," the father excitedly shared with me. Maybe many of you already know that it is our department tradition that prospective students and their families can always expect to talk to professors. Many parents told me that was certainly not true in many other places. Please spread the tip that professors in this department always enjoy interactions with visiting families in person or through online chatting.

The research reputation of our program is also well-known among many area students and families, but unfortunately, it has not reached all Toledo students, let alone elsewhere. The funding our department receives solely from the National Institutes of Health nearly matches the total funding obtained by each of several well-attended regional Ohio universities. This means better instrumentation and newer information our students will be exposed to. It usually takes at least a few years for scientific advances to be written in textbooks, but our students can see and do cutting-edge research with our research active faculty members! So compared to a university with biology professors depending on textbooks only, it is not an exaggeration that our students gain an advantage for their future placement because of the "current" knowledge they obtain. I also want to add that, compared to

research scientists, our professors are also experienced educators who really understand students and are willing to patiently guide them along the way.

We have never stopped tinkering, even overhauling, our curricula and programs to help prepare our students for the future. I have written about our new B.S. in neuroscience program in the past few newsletters. This program is attracting students and growing rapidly. In the past semester, we received approval for a combined B.S./M.S. 5-year pipeline program in Cell/Molecular Biology! The new program will be open for enrollment to current undergraduate students this upcoming fall semester. It allows students to earn nine credit hours that fulfill the requirements for both undergraduate and graduate studies, which enables them to graduate with an M.S. degree within five years of starting at UToledo. The student can choose a research project or a capstone project for their M.S. thesis. We anticipate this enriched experience will not only assist students in gaining admission to medical, veterinary or dental schools but also enhance their career prospects in the biotech industry and other biomedicine-related fields.

To finish, please join me in congratulating Dr. Qian Chen on his recent promotion to full professorship and Dr. Tomer Avidor-Reiss on being named a 2024 UToledo Scholarly and Creative Activity Award Winner! Go strong, BIOL!

Enjoy your summer!

Song-Tao Liu

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IN THE NEWS ...

Junior Biology Student Helps Bring Hope, Distraction to Hospitalized Children

Since high school, Sajan Shah has helped others — tutoring students, coaching tennis, volunteering at nursing homes.

The latter particularly made an impression on Shah, as he formed an emotional connection with the patients he was helping.

“I realized that all they really needed was someone to talk to and share stories with,” said Shah, now a UToledo junior studying biology. “They just need companionship. My interaction with these seniors, some of whom do not have family nearby or under hospice care, offered a distraction from their ailments and help pass the time.

“This was such a rewarding experience that I thought why not offer healing through play or distraction to kids as well. This is when I found Project Sunshine.”

Founded by Joe Weilgus in 1998 after the then-college student walked through a pediatric ward in a hospital and saw children sitting in their rooms with nothing to do, Project Sunshine is a national nonprofit organization dedicated to providing hope and support to pediatric patients.

“According to the American Academy of Pediatrics, play is proven to be one of the most effective methods in reducing stress in children and allows their minds and bodies to heal,” Shah said.

Project Sunshine does just that, through activity kits assembled and delivered to hospitalized children by Project Sunshine volunteers.

Just as Weilgus was inspired to create Project Sunshine to help children during a vulnerable time in their lives, Shah wanted to do the same.

Last fall he launched the UToledo chapter of Project Sunshine. More than 30 UToledo students showed up at the first meeting and 13ABC would also feature Project Sunshine during its Nov. 9 newscasts.

“I was pleasantly surprised” at the student turnout, Shah said. “The students here at UToledo have shown tremendous support for Project Sunshine. So far we have

shipped 300 activity kits. These kits went to Brade’s Place in Utah, Harbor-UCLA Medical Center in California and Children’s Wisconsin-Milwaukee Hospital. We are on schedule to deliver 300 more kits this semester.”

The next meeting of the UToledo chapter of Project Sunshine is scheduled for 7 p.m. Thursday, Feb. 22, at the Student Recreation Center. Shah said the organization is looking for students to not only make the kits but to volunteer at Ebeid Children’s Hospital as well. For more information, visit the Project Sunshine event on InVonet.

“There is a rigorous process to be able to volunteer at the ProMedica Russell J. Ebeid Children’s Hospital,” he said. “So far, many members have completed the training, and we are getting ready to start companionship visits at local hospitals. I cannot thank everyone enough for their continuous support and commitment to this worthwhile organization.”

“Project Sunshine has supported activities for our hospital for many years,” said Maria Gaskins, supervisor of Child Life at Ebeid Children’s Hospital. “We are excited to work with Sajan and the Project Sunshine group to bring in volunteers to do activities with the patients and families at the hospital. Our volunteers help to provide some much-needed distraction during the patients stay by providing opportunities for patients and families to participate in the Project Sunshine activities.”

Born and raised in Lambertville, Michigan, Shah said beginning his higher education journey at UToledo “was the best decision that I made.”

“UT offers all the benefits of a large university but with a personal touch,” he said. “When I first started here, I was amazed at how the advisors and faculty were so friendly and eager to help me succeed. Throughout my years at UT, not only have I grown academically, but I have also developed valuable leadership skills through my involvement in organizations like Student Government, Red Cross Club and Alpha Epsilon Delta.”

One of his mentors is Dr. Deborah Hendricks, director of the Pre-Health Advising Center, who remembers when Sajan came into her office to discuss starting UToledo’s chapter of Project Sunshine.

“The name of the organization describes the positive radiant light he brings to every room,” Hendricks said. “The Pre-Health Advising Center has been blessed to have Sajan as an active Rocket pre-med student. Since coming into the office in 2022, he has either led or participated in pre-med information sessions, wellness events such as mindfulness and yoga and served as both a mentee and mentor in PHAC Rocket2Rocket mentoring program. He looks for ways to help regardless of how busy his schedule might be.”

“I have watched him grow in his confidence as a leader, mentor, and future physician. He is a great role model and works daily to improve the human condition.”

Shah said that he hopes the UToledo chapter of Project Sunshine will live on after his time as a Rocket.

“I understand we cannot take away the pain, suffering and illnesses of the pediatric patients, but what we can do is offer a distraction and some comfort through our activity kits and companionship visits,” he said. “Our mission is to try to help them by bringing a little sunshine or healing through play when the children need it the most.”

By Kirk Baird, UToledoNews, February 2024, used with permission



Biology Sophomore Researching Cell Behavior Earns Prestigious Goldwater Scholarship

Sophia Durham knew she wanted a career in a research laboratory.

She had already taken advantage of an opportunity as a high school student to investigate the immune system of alligators alongside researchers at North Carolina State University. As she thought about what she wanted to do after she tossed her mortarboard in 2022, she knew she didn't want to wait until she was an upperclassman or even a graduate student to get hands on with gels and pipettes and other tools of the trade in a university lab.

It's a key reason she chose to enroll at The University of Toledo.

"I knew I wanted to do research as an undergraduate, and I wanted to put myself in a position to access those opportunities as soon as possible," said Durham, who was born in Toledo and graduated high school in Cary, North Carolina. "I knew I could do that at UToledo."

Durham's first week on campus wasn't done before she connected with Dr. Rafael Garcia-Mata, a professor who explores mechanisms of cell behavior within UToledo's Department of Biological Sciences. Nearly two years later as a biology sophomore, she is being recognized for her commitment to a career in research with a prestigious Barry Goldwater Scholarship.

The Barry Goldwater Scholarship and Excellence in Education Foundation was established by Congress in 1986 to honor the lifetime work of Arizona Sen. Barry Goldwater. It seeks to identify, encourage and financially support sophomores and juniors who show exceptional promise of becoming the country's next generation of research leaders in natural sciences, mathematics and engineering.

Durham is one of two UToledo students selected as a 2024 Goldwater Scholar. She's joined by Chloe Villa, a biochemistry junior who works with Dr. Wei Li in the Department of Chemistry and Biochemistry. It is the first time the University has had two Goldwater

Scholars named in the same year.

"Sophia is a unique student. I have mentored more than 20 undergraduate students over the years and have never seen anybody more enthusiastic about research," Garcia-Mata said. "She's also one of the smartest students I have ever supervised. After almost two years in my lab, she operates in many ways at the level of a graduate student, both in her understanding as well as her technical skills."

Garcia-Mata's research specifically focuses on Rho GTPases, a family of enzymes that control many aspects of cell behavior. He and his team of graduate and undergraduate researchers are specifically interested in their role in cancer progression.

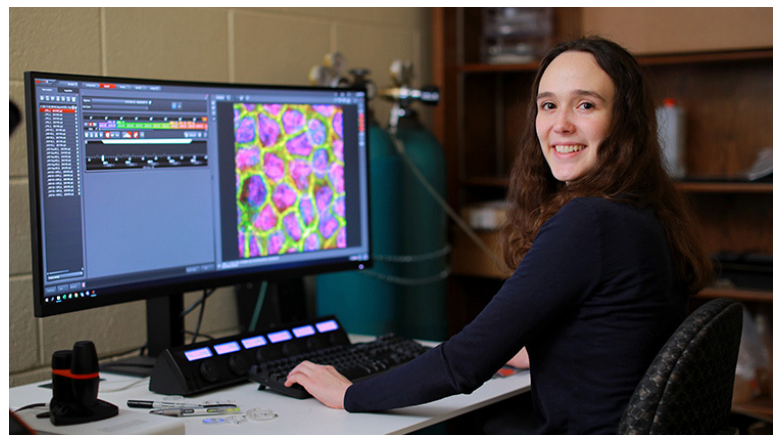
Rho GTPases regulate a dramatic rearrangement of a cancer cell's cytoskeleton — the complex network of interlinking protein filaments that give the cell its shape — that allows for formation of protrusions called invadopodia. These invadopodia are what allow cancer cells to leave the primary tumor, enter the bloodstream and invade other tissues.

Durham, who's enjoyed assisting doctoral students in their research and presented her own work at the UToledo Undergraduate Research and Creative Activity Exhibition in December, said she's drawn to the problem-solving nature of the work.

"If things don't work out the first time, it's kind of like a puzzle to figure out what you messed up," she said. "A Ph.D. student in our lab describes it as being a detective, trying to figure out what's happening. I definitely relate to that. I like being a part of the investigation."

Away from the lab, Durham is part of

the Jesup Scott Honors College and a supplemental instructor for Fundamentals of Life Science: Biomolecules, Cells and Inheritance. Her French classes are an enjoyable change of pace, she said, and she's interested in exploring research opportunities abroad on her path toward a doctorate and research career.



In the meantime, she will receive two years of financial support as a sophomore recipient of the Goldwater Scholarship. She recalled how her nervousness turned to excitement on the day the scholarship winners were announced.

"It's really cool," Durham said. "It feels like reassurance that I'm on the right path personally, and validation of the research I'm doing with Dr. Garcia-Mata."

Goldwater Scholarships are highly competitive, with students participating in their schools' internal competitions before receiving consideration from the Goldwater Foundation. Durham and Villa join, most recently, Derek Kluczynski who was named a Goldwater Scholar in 2023, Jacob Connolly in 2021 and Nathan Szymanski in 2018.

By Nicki Gorny, UToledoNews, April 2024, used with permission

Graduating Biology Student Follows Sister's Footsteps in Dentistry

Peter Tsatalis and his sister have a close bond; so close, in fact, that he is pursuing her career in dentistry nearly a decade apart.

Growing up in Dayton, Tsatalis often visited his sister, Dr. Andrea Tsatalis, at UToledo while she was pursuing her undergraduate degree.

"I have such fond memories of those times and was always attracted to the warmth present at UT," he said. "The same warmth I was attracted to as a child continued to radiate during my interactions with admissions officers and ultimately drew me to become a Rocket."

Despite their eight-year age difference, Tsatalis said Andrea has always been a guiding light in his life. He learned from her as she brought home her assignments and got an early start on his career goals.

"I vividly remember my sister coming home from dental school on weekends and showing me the wax models and instruments she was learning to use," he said. "The duality of the dental field in being equally composed of both science and art excited me."

But his sister was not the only inspiration that led him to UToledo. During the application process, Tsatalis said he "was very impressed with the ample opportunities provided by UToledo: research opportunities both on Main Campus and at UTM, the UToledo/Case Western Pipeline dental program and a diverse array of clubs."

Graduating Saturday, May 4 with a

bachelor of arts degree in biology, Tsatalis said he has enjoyed the challenges he has faced in his major.

"The excellence of education present at UToledo, the challenging material, and the instruction by quality professors enabled me to grow as a student," he said. "I am confident that my academic pursuits at The University of Toledo have laid a strong foundation for future academic success in dental school and beyond."

Tsatalis also has experience working as an orthodontist assistant at Buckeye Orthodontics in Dayton, which he said he felt fortunate to gain experience from.

"I have always dreamed of a career that fulfills me both in the work I do as well as the impact I can have on people's lives," he said.

Tsatalis has forged his own way at UToledo: excelling in his classes, gaining work experience and forming connections with faculty including Dr. Deborah Hendricks, director of the Pre-Health Advising Center.

"Early on, Peter stood out as a leader who embraces challenges with positivity and optimism. He embodies what a UToledo Rocket stands for," Hendricks said. "It only takes a minute of talking with him to notice his gift of listening; he listens to hear. He does this because he genuinely cares for others and is intentional about making them feel like they matter."

"I am confident he will be an amazing dentist someday, who listens mindfully to



his patients and provides extraordinary care. I feel blessed to have been part of his journey here at UToledo."

Following graduation, Tsatalis will pursue his doctorate of dental surgery degree at the Ohio State University College of Dentistry, just like his sister did almost a decade ago. Perhaps he'll even join her in Tampa, Florida, where she works as an endodontist and lecturer.

"Hopefully one day life will bring us together as coworkers so that we can continue to motivate and enrich each other, as well as our patients, on a daily basis," Tsatalis said. "My sister and I are extremely grateful for the supporting environment and opportunities offered by UToledo to make our career and personal dreams a reality."

By Natalie Burgess, UToledoNews, April 2024, used with permission

NEW! B.S./M.S. IN CELL/MOLECULAR BIOLOGY COMBINED 5-YEAR PIPELINE PROGRAM

The Department of Biological Sciences, along with the College of Graduate Studies, are proud to announce a combined B.S./M.S. 5-year pipeline program in Cell/Molecular Biology! This program provides our students with enhanced experiences and skills in cellular and molecular biology, preparing them for careers in professional or doctoral programs. Career opportunities include bioinformatics, biotechnology, clinical laboratory technician, genomic scientist, pharmaceutical researcher, professor, science teacher and many more.

There are two tracks available for the pipeline program: the Research Thesis

track or Non-Research Thesis Capstone Project track. To enter the program, an undergraduate student needs to have an overall B.S. or B.A. with a GPA of 3.00 or an overall GPA of 2.75 with a GPA of at least 3.00 in the last 30 credit hours.

Students interested in the pipeline program must apply for admission to the College of Graduate Studies for the semester they intend to matriculate. Students then continue into the graduate program upon completion of the undergraduate degree requirements. The graduate coursework (up to nine hours) may be applied to completion of both undergraduate and graduate degree

requirements. The "double-dipping" nine credit hours of graduate-level coursework include:

- BIOL 6030 - Introduction to Graduate Studies (2 credits);
- BIOL 6040 - Introduction to Graduate Cell and Molecular Biology and Methods (3 credits);
- BIOL 6960 - Masters Thesis Research (1 credit);
- BIOL 6200 - Advanced Signal Transduction (3 credits).

Students can request a program sheet at the department office (Wolfe Hall 1235) or email anna.woodward@utoledo.edu.

Budding Scientists Control UToledo Microscopes to Study the World

Through a unique program at The University of Toledo, more than 7,000 elementary, middle and high school students in the U.S. and around the globe have used sophisticated scientific instruments to get a rare perspective into the world around them along with a taste of what academic research is really like.

Free to any school wishing to participate, the SCOPE program in the UToledo College of Natural Sciences and Mathematics launched locally 12 years ago in the Instrumentation Center and went international thanks to lessons in remote connections learned during the COVID-19 pandemic.

“The SCOPE Program uses instruments that are controlled by a computer interface. Since we are already using computers to control the instruments in person, we are able to use desktop-sharing software to allow remote access to the schools we work with,” said Dr. Kristin Kirschbaum (pictured below), director of the UToledo Instrumentation Center and creator of the SCOPE program, which is an acronym for Scientists Changing Our Pre-College Education. “The children



see our computer screen. With guidance from UToledo scientists, they run the microscope as if they were on campus.”

The on-campus team member gives an introduction and loads a holder with samples. Using the remote-control option of Zoom, students as young as fourth graders can change the samples, zoom in and out, take pictures and

measure the sizes of samples. One of the high-powered microscopes can magnify samples up to 1 million times.

UToledo offers different sessions depending on the equipment being used.

During the pandemic, a module on face masks was popular. Students using a scanning electron microscope looked at the sizes of holes in different styles of face masks and then compared those to known sizes of viruses, droplets and other particles to figure out which type of face covering is most effective.

Another session about how flowering plants reproduce allowed students to view up to 10 different types of pollen. Students learned about the different surface structures of pollen and determined if they are carried on the wind or carried by insects.

“We also have collaborated with classroom teachers to create unique sessions based on what they are studying in their classroom,” said Cassandra Zamora, outreach program coordinator.

For example, Northwood High School in Ohio asked about HeLa cells, the famous cancer cell line derived from the cells of Henrietta Lacks. Biology students in 10th grade were learning about the cells in science while also reading a book about Henrietta Lacks in their language arts classes.

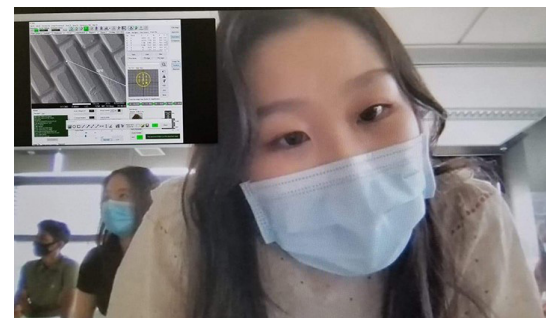
“Dr. Rafael Garcia-Mata, a professor of biological sciences at UToledo, studies HeLa cells in his laboratory, and our SCOPE program was able to allow the students to use the confocal microscope to view the very same HeLa cell line they were learning about,” Zamora said.

The Instrumentation Center offers a scanning electron microscope, which enables the observation of objects at the micro- and nano-meter scales and is used to examine the morphology of samples. The SCOPE program also

features a confocal light microscope, which delivers optical images with enhanced resolution, and a gas chromatography-mass spectrometer, which analyzes the chemical composition of aromas and flavors.

“The equipment is not readily available to many people, international or not,” Kirschbaum said. “By allowing aspiring scientists to access these specialized instruments, we are introducing them to concepts and techniques they may never have had the opportunity to access otherwise.”

SCOPE has worked with classrooms from 17 states in the U.S. as well as teachers and students in China, Czech Republic and Germany. The program will soon be offering sessions with classes in the Philippines.



“What a fantastic program,” said Toni Greene, a teacher in Hong Kong whose class participated in the SCOPE program (session image above). “My head of school walked in on the second session and was really blown away that our students had an opportunity to control a scanning electron microscope. The kids really loved it too. The information presented was great, and I personally learned so much.”

By Christine Billau, UToledoNews, March 2023, used with permission

2024 Department of Biological Sciences Graduate Student Research Symposium (BGRS)

The 2024 BGRS was held on March 1st, 2024, in the Student Union on the main campus of the University of Toledo. More than 50 members of the department, including graduate students, undergraduate students and faculty members, participated in this annual event. The department Graduate Student Government headed by its president Trupti Devale and vice president Raissa Songwa took the lead in organizing the symposium. The meeting started with an introduction by department chair Dr. Song-Tao Liu. This was followed by both poster and oral presentations by the graduate students. More than 30 graduate students presented their research on posters. Many departmental faculty members judged the poster presentations and gave detailed feedback to the presenters. Three graduate students, Zubayer Hossain Saad, Binod GC and Madeline Lovejoy, were selected to give oral presentations at the symposium. In the afternoon, Dr. George Stark, a prominent biochemist and Professor of Biochemistry at Cleveland Clinic's Lerner Research Institute, gave the keynote talk. His talk, titled "Improving Cancer Treatment by Connecting Interferon and Immunotherapy", detailed his groundbreaking works on both enzymology



and immunology that spanned more than six decades. The meeting ended with an award ceremony in the afternoon. Six graduate students were awarded "Best Poster" prize. This annual event presented a rare opportunity for the whole department to learn about each other's research in a fun and relaxed environment away from their daily bench work. It instills a strong sense of community among the students and fosters potential collaborations among many research groups.

Graduate Student Appreciation Week 2024

This year marked the first time that our department celebrated Graduate Student Appreciation week (April 1st-5th). Two faculty members in the department, Drs. Silvia Goicoechea and Wei Niu, organized many fun-filled

activities for the more than 30 students in our graduate program. The week kicked off with a Graduate Student Brunch on Monday during which the students chatted about science and lives over food. This was followed by a social mixer over coffee and tea the next day. On Wednesday, the graduate students bonded with each other by competing against each other in games of pickle ball, badminton and volleyball. The faculty members of the department also joined the celebration by taking a walk with the

students around the UToledo campus. The last activity of week was "Dress to impress and Photo Booth", during which the students had an opportunity to deck out in their favorite outfits for a photo shoot on Friday. Throughout the week, the graduate students, who hail from many countries around the world, enjoyed each other's company in these social events, outside their usual domain of research laboratory.



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AWARDS/SCHOLARSHIPS

The following undergraduate awards and scholarships were presented during the 2023-24 academic year:

2024 Spring Outstanding Graduating Biology Student

Derek Kluczynski

Biology Merit Scholarship

Miranda Adler
 Karina Delgado
 Isabel Hosey
 Caiden O'Brien

Joseph A. and Mary A. Capobianco Memorial Scholarship

Sobeya Abugheneima
 Ibrahim Abuhamad
 Atheer Amer
 Colin Kinnersley
 Joelle Obri
 Alexander Shaffer

Dr. Charles Cruetz Scholarship

Isabel Nester

Dr. Bruce A. Crider Memorial Scholarship

Abdullah Abuhamad
 Leena Ahmed
 Sophia Bula
 Jaclyn Kauer
 Noura Khatib
 Jaden Maschack
 Amber Smith

Dr. Peter C. Fraleigh Memorial Scholarship

Satkeerth Boyapalli

Fred O. Hartman Scholarship

Shalika Sangras

Dr. James S. Hatfield College of Natural Sciences and Mathematics Scholarship

Danielle Akjei
 Nikita Chhabra
 Haley Prine

The C.V. Wolfe Scholarship

Amber Smith

Congratulations!



REFLECTIONS FROM PAST SCHOLARSHIP RECIPIENTS:

The C.V. Wolfe scholarship is an amazing donation, as it has equipped me with the resources to work towards my degree while excelling both inside and outside the classroom.

- Atheer Amer

Receiving the Dr. James S. Hatfield College of Natural Sciences and Mathematics Scholarship was a great honor and helped reduce financial stress to allow me to focus on my PA school applications. The University of Toledo has shown great support and provided excellent opportunities in my academic endeavors thus far, and I am looking forward to continuing my journey as a Rocket in my graduate studies.

- Jenna Maruskin

The Elmer R. and Gertrude M. Brigham Scholarship has helped me by contributing to my tuition to allow me to continue my education, but it has also allowed me to continue with the amazing clubs and research here at The University of Toledo. - Jaden Maschack

Receiving the Dr. Bruce A. Crider Memorial Scholarship has certainly assisted me in furthering my education and has allowed me to become more committed to using my skills and education to better my life and that of my community.

- Seham Abutaha

Being a recipient of the Dr. Bruce A. Crider Memorial Scholarship has helped me tremendously. Receiving the scholarship reminded me that there is always a way to reach your goals no matter how far away they may seem. This scholarship alleviated the struggles that come with being a college student, permitted me to continue my passions, and hopefully achieve my primary goal. - Zeinab Awada

I am thankful to the Department of Biological Sciences for the education I have received and the Fred O. Hartman scholarship. I have enjoyed many of the biology classes I have taken at UToledo. This scholarship has helped me to reach my goals of attending dental school. - Korben Leung

Alumni in the Spotlight ...



LISA DELUCA, PH.D.

Senior Vice President
Regulatory Affairs and Quality
Assurance at GlycoMimetics,
Rockville, MD

Lisa (Ph.D. 1989, UToledo) has 30 years of pharmaceutical experience, with 27 of those years in Regulatory Affairs, including both large pharma and small biotech companies.

The majority of her regulatory career has been spent in the oncology therapeutic area; she is passionate about bringing safer more effective oncology drugs to cancer patients. Her career is hallmarked by multiple product registrations and approvals; her experience spans the drug development spectrum from pre-IND to post-approval and life cycle management. She currently holds the position of Senior Vice President Regulatory Affairs and Quality Assurance at GlycoMimetics, located in Rockville, MD.

"I've had, and continue to have, a successful career in the pharmaceutical/biotech industry which all stems back to my time and training at the University of Toledo. While working towards my Ph.D., Dr. Patricia Komuniecki served as my mentor. Dr. Komuniecki's field of interest was in carbohydrate metabolism using gut parasites as the model to study. At the time, Dr. Komuniecki received a grant from the UpJohn company in Kalamazoo to screen potential drug candidates for anti-parasitic activity. When I graduated from the University of Toledo I did a Post Doc in molecular biology at the University of Michigan. Following the completion of the Post Doc I went to UpJohn and worked with the same group that provided the grant to Dr. Komuniecki. I was able to study developmental switches at the molecular level in parasites. This position combined my training at UToledo and my Post Doc training at U of M. My degree, training and acquired experience has opened many doors for me, and I was routinely contacted by recruiters asking me to consider new career opportunities.

Throughout my career I have relied heavily on the scientific training, thought processes and presentation skills, I developed at UToledo. Although I have not been in a lab or involved in basic research in a very long time, the skills I acquired at UToledo have enabled me to successfully bridge to non-research based positions in the pharmaceutical and biotech industry. Clearly, UToledo served as the launch pad for everything that I have accomplished professionally."

KENYA HAIRSTON, M.S.

Senior Project Manager-
PMO Hematology-Core
Diagnostics at Abbott,
Irving, TX

Kenya (B.A. 1997, UToledo) stands as a beacon of inspiration, weaving a tapestry of professional excellence, educational empowerment and community engagement.

As a Senior Project Manager at Abbott, her expertise shines brightly in the realm of hematology. Yet, her journey extends far beyond corporate corridors, into the realms of education, entrepreneurship and spiritual leadership.

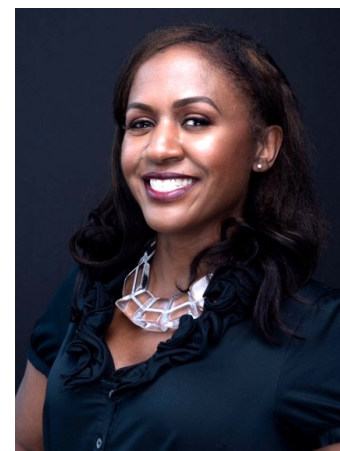
Kenya's educational journey started at the University of Toledo, where she earned a degree in Biology in 1997. Her decision to embark on this path was spurred by chance encounters with university recruiters during her high school days. However, it was the campus tour that truly sealed her fate, igniting a passion for learning and discovery.

Reflecting on her undergraduate tenure, Kenya fondly recalls her favorite class—microbiology—and the unexpected joy found in elective courses like dance. Kenya was also involved in undergraduate research in a lab studying AIDS.

Kenya's collegiate experience was enriched by extracurricular involvement, notably with the University of Toledo Gospel Choir and various roles on campus, including student athlete (track and field) and tutoring football athletes. These engagements instilled invaluable lessons in responsibility, leadership and multicultural understanding.

A pivotal moment in Kenya's career occurred during a summer internship at Abbott in Columbus, Ohio. *"That is where I fell in love with food science"*. After completing her B.A. in Biology, she decided to pursue a degree in Food Science and Technology at The Ohio State University, marking the start of a successful career spanning over 15 years in the food industry.

Today, Kenya's professional landscape has evolved to encompass the intersection of nutrition, healthcare and project management, with her current role as a Senior Project Manager in Hematology at Abbott. Her journey underscores the symbiotic relationship between academic foundation and



(Alumni in the Spotlight, continued from page 9)

career success, with her experiences at UToledo serving as a springboard for her achievements.

Beyond her professional endeavors, Kenya epitomizes the spirit of altruism and service. Driven by a deep-seated commitment to her community, she founded Temple Transformation, LLC, a faith-based organization dedicated to promoting healthy lifestyles in inner-city communities. Her philanthropic spirit extends further through the establishment of scholarships at The Ohio State University in honor of her father, aimed at supporting minority students pursuing engineering or science degrees.

In addition to her entrepreneurial pursuits, Kenya is deeply entrenched in her local church community, serving as praise and worship co-leader and contributing to various ministries, including women's empowerment and STEM initiatives. Her dedication to fostering the next generation of STEM leaders is evident not only through her scholarships but also as a Culinary Arts

Adjunct Professor at Columbus State Community College.

Kenya will be soon embarking on a new chapter in Dallas, TX, where she is relocating with her husband and son.



AARON TIPTON, PH.D.

Process Development Scientist at CDMO Cytovance Biologics, Oklahoma City, OK

"I graduated with my Ph.D. in 2012 from the lab of Dr. Song-Tao Liu (I was his first grad student). I heard he is the Chair now, so tell him that I said hello and congratulations!

I had a fantastic experience as a graduate student at the University of Toledo in Dr. Liu's lab. The coursework

in the graduate program really gave me an upper hand in furthering my career, especially when compared to my peers from other "well known" universities. The department as whole was comprised of a close-knit group of very successful scientists that were always willing and available to answer questions and provide guidance.

Through Dr. Liu's mentorship, and guidance from other faculty members, I was able to obtain a postdoctoral position at the Oklahoma Medical Research Foundation in the lab of Gary Gorbsky (another well recognized name in the field of mitosis). Following my postdoctoral fellowship, I decided to leave academia and pursue a career in industry. I am currently a Scientist at the CDMO Cytovance Biologics. I can honestly say that I have had a very successful scientific career thus far. The graduate program at UToledo (especially the mentorship provided by Dr. Liu) has been a cornerstone in achieving this level of success."

Thank you for your many years of service Deborah, Happy Retirement!



Dr. Deborah Vestal (B.S., Bowling Green State University; Ph.D., Syracuse University) joined the faculty in the Department of Biological Sciences in 2002, coming from the Cleveland Clinic where she was a Project Scientist.

For Deborah, one of the motivations for making the move from bench scientist to educator was the opportunity to combine teaching and research. The teaching mission of the department provides a way for faculty to interact with undergraduate and graduate students, and help them in their career development. Additionally, teaching activities provide a portion of a faculty members salary, which helps smooth out the ups and downs of research funding.

During her time at UToledo, some of Deborah's fondest memories were of the students she worked with and then seeing their success after graduation. *"The first undergraduate I mentored for research in my lab, Devon Jensen, was such a great student that he was aggressively recruited by top tier graduate schools. After turning down Caltech, Columbia and a host of others, Devon went to UC Berkeley to work with Randy Scheckman, who would soon win the Nobel Prize. In his Nobel acceptance speech, Randy Scheckman mentioned two students in his life whose work was truly outstanding – Devon Jensen was one of them. I have always said that our best students are competitive with any students, anywhere! Devon went on to found Enlis Genomics, and is currently an Associate Director of Bioinformatics at*

BD. Another mentee was a student athlete who initially struggled in the Cell Biology class, but we worked together to help her cope with the demands of her athletic travel schedule and still succeed in the class. Later she joined my lab for mentored research and despite the demands of her athletics, and the disruptions of the COVID pandemic, we found creative solutions that allowed her to achieve first authorship on a research paper", recounted Dr. Vestal.

In addition to her countless student successes, Deborah's research team was one of the first at UToledo to collaborate with clinicians to get patient samples for analysis. Specifically, this included an ovarian cancer study where there were significant obstacles and logistical hurdles that had to be overcome. She was also the first person to get

a Translational Research Stimulation Award from UToledo and was active in the Interferon and Cytokine Society for many years, serving on committees for Publication, Awards, Finance, the Editorial Board and the International Council. Most recently, Deborah devoted significant time and effort to departmental and university service, chairing the Departmental Personnel Committee, the Assessment Committee and worked with the Graduate College to evaluate applicants for Graduate Faculty Status.

When asked what advice she would give to students and faculty to keep improving the educational environment of the department, Deborah said, "Communication is very important. Students: tell the faculty if you are experiencing difficulties in coursework, or even issues outside of the University, that are impacting your academic

performance. Your instructors cannot help if they don't know what is going on! Faculty: be sensitive to the students' situations and try to see them from a whole-person perspective. Students today often have significant demands off-campus that can cut into study time, such as work and family responsibilities. Try to be pro-active and help students while there is still time for a course-correction. In our graduate program, having a formal mechanism for the faculty teaching our graduate courses to communicate the students' grades to their research mentors is very helpful and solves issues before they become major problems."

Even though Deborah's officially retired, she has plenty of things keeping her



busy! She's currently working to publish one last manuscript on research she recently finished and has been enjoying the freedom to take little road trips and visit her family. As far as new projects, Deborah is learning to paint, taking classes on watercolors and expressive landscapes!

Deborah, we wish you all the best ~ be sure to come back and see us every now and then!

GIVE A GIFT, MAKE A DIFFERENCE!

Please join other alumni in supporting education and excellence in the UToledo Department of Biological Sciences!

For more information about giving, including setting up scholarships or additional gift funds, please contact Brittanie Kuhr, Director of Development - Colleges of Natural Science & Mathematics at 419.530.5418 or brittanie.kuhr@utoledo.edu.

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