



WISCONSIN - PUERTO RICO PARTNERSHIP FOR RESEARCH AND EDUCATION IN MATERIALS - PREM

The Official UPRM - PREM Newsletter

LEADERSHIP IN UNCERTAIN TIMES!

By: Yuleika Acevedo García

Administrative Officer & Project Manager

It seems like it was the other day when the world halted to deal with one of the biggest challenges in this century, the Covid-19 pandemic. A challenge that would transform all of us as a society. Everything that we thought was normal completely changed. No chance to visit your office unless it was completely essential, no more people at the classrooms, no people in science labs, at a very abrupt and fast pace we needed to confront this monster that was changing what we knew as "normal".

At the beginning it was weeks filled with uncertainty, but during this tough process everything started to fall into place. We started to identify find ways to keep doing our business meetings, continue with our science investigations and at the same time adapt to a new way of life.

And even though it was a tedious and complicated process, it was great seeing how everybody came together and overcame all the challenges and continued hoping for a better future.

Despite all the challenges there is a lot to celebrate, Gabriela obtained a great achievement (Barry Goldwater Scholarship), Kevin favorably defended his thesis, classrooms are now virtual and science's impact in our community keeps growing. For this reason we are inviting you to enjoy our most recent newsletter.



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Award #1827894

GABRIELA DIAZ FIGUEROA

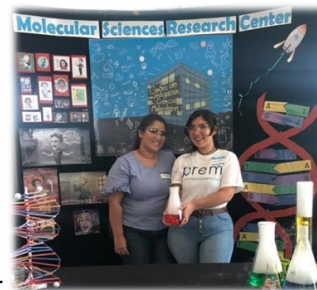
Barry Goldwater Scholarship

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SCIENCE AMBASSADOR

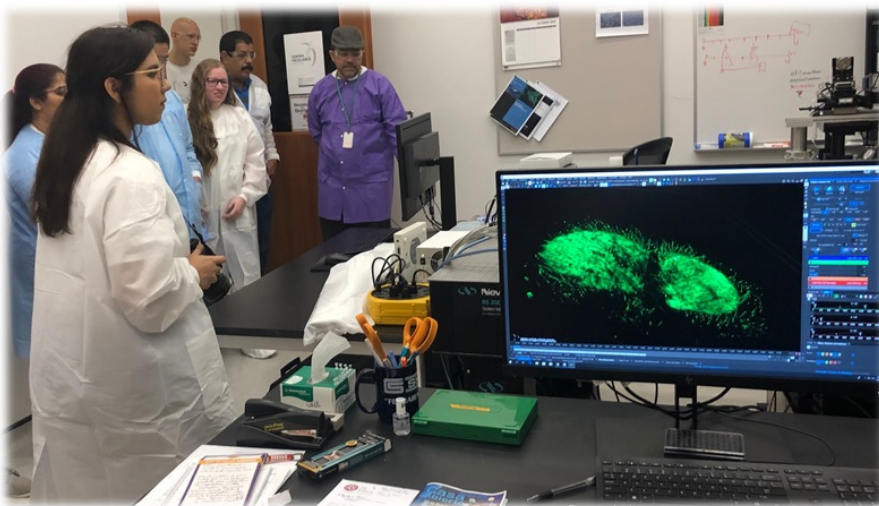
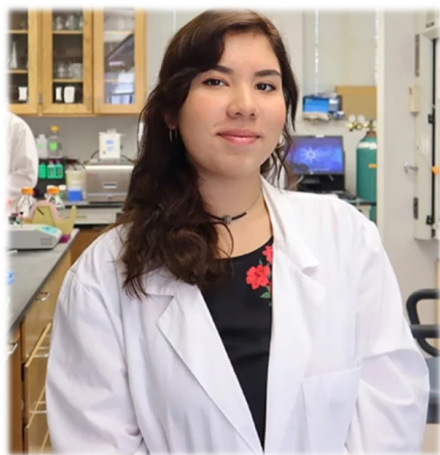
By: Yaliska Acevedo García

Administrative Officer & Project Manager



PREM, University of Puerto Rico, Mayaguez Campus (UPRM) proudly announces that the undergraduate student Gabriela Díaz-Figueroa was awarded the Barry M. Goldwater Scholarship. Díaz-Figueroa, together with 409 other awardees, was selected from the pool of nominees (1,256 students) presented by over 438 academic institutions in the United States. This Scholarship Program honors Senator Barry Goldwater and it fosters and encourages outstanding undergraduate students to pursue research careers in STEM fields. Goldwater Scholars traditionally increase the potential to access prestigious post-graduate fellowship programs, making it a preeminent STEM field undergraduate award.

Díaz-Figueroa has excelled as a science communicator in the project Wisconsin – Puerto Rico Partnership for Research and Education in Materials (PREM) at UPRM.





Currently a fourth-year undergraduate student pursuing an Industrial Microbiology degree at UPRM, Díaz-Figueroa demonstrates great leadership, commitment, and is an ambassador in field of communications and the sciences.

“Being a science communicator at PREM helped further develop my skills in writing, speaking, and most importantly, the ability of providing the public with valuable information in an accessible manner. As a researcher, knowing how to share a research topic or specialty with the general public, is exceedingly important. There are many fields that are advancing at a rapid pace and being able to help provide the community with a little of what is being done in PREM, is something that simply fills me with great joy. I am honored to be a Barry M. Goldwater Scholar, and am grateful for all the skills, advice, knowledge, and encouragement from PREM, which continues to help me become the professional I aspire to be. I am grateful for the whole team and hope to continue to be a part of this empowering project!” – Gabriela Diaz-Figueroa

Gabriela Díaz-Figueroa’s discipline and passion towards the STEM field is highlighted by this prominent Scholarship. Dr. Ubaldo Córdova-Figueroa and the PREM team congratulate Díaz-Figueroa on this achievement. The PREM team encourages and is confident she will continue pursuing academic excellence towards reaching her goals!

Congratulations!

“The science of today, is the technology of the future” – Edward Teller.











IRT 2: CONTROLLING CRYSTALLIZATION OF ORGANIC MOLECULES IN POLYMER-BASED FORMULATIONS

March 4, 2021 By: Torsten Stelzer

Despite the COVID-19 pandemic, IRT 2 continued to thrive for excellence. Our undergraduate and graduate students conducted their research following all safety measures to present their results successfully at virtual scientific symposia.

For instance, Jose's work on "Polymorphism in Crystalline Solid Dispersions" was presented at the Virtual Symposium on Solid-State Organic Chemistry (VS30C), May 27-28, 2020 and our newest member at IRT 2, Josmary presented at the PR-LSAMP Fall Virtual Research Symposium 2020 held on December 4, 2020.

 José Hernández Ph.D. Student Chemistry UPR - Río Piedras	 Giovanni López M.S. Student Industrial Pharmacy UPR - Medical Sciences	 Jocelyn Jiménez M.S. Student Industrial Pharmacy UPR - Medical Sciences	 Francheska Reyes M.S. Student Industrial Pharmacy UPR - Medical Sciences
 Veronica Toro B.S. Student Chemistry UPR - Río Piedras	 Tatiana Graciani B.S. Student Chemistry UPR - Río Piedras	 Josmary Colón B.S. Student Chemistry UPR - Río Piedras	 Marileyda Hernández B.S. Student Interdisciplinary Science UPR - Río Piedras

IRT 2 was also actively involved in the virtual open house activity at the UPR Molecular Sciences Research Center. Under the leadership of IRT 2 senior member and open house co-organizer Dr. López, Marileyda co-hosted an interactive science show "La Magia y las Moléculas" (Magic and Molecules), which was livestreamed via Facebook Live. Behind the scenes, all IRT 2 students supported this show by preparing the experiments shown live or by prerecording educational videos, for instance, on how to build a copy of the Eiffel Tower in Paris by employing very same fundamental concepts of crystallization science that drives our research at IRT 2.

CONGRATULATIONS TO KEVIN J. ZABALA-RODRÍGUEZ FOR SUCCESSFULLY DEFENDED HIS MASTER THESIS!

April 6, 2021 - By: Yaleika Acevedo-García

PREM, University of Puerto Rico, Mayagüez Campus (UPRM). After intensive work and dedication, we proudly announce that the graduate student Kevin Johan Zabala-Rodríguez has successfully defended his master's thesis.

Kevin pursued a Master of Science in Chemical Engineering at UPRM. He has been an active PREM member since 2018, under the supervision of Dr. Claribel Acevedo-Vélez. His thesis work focused on studying the influence of mixed-monolayer protected gold nanoparticles on colloidal stability and surfactant-induced ordering transitions of liquid crystals emulsions for sensing applications.



Working on a thesis is not an easy step, and being able to defend it even with the challenges imposed by the Covid-19 pandemic represents a greater achievement.

Congratulations on this new step in your STEM career, it is a great pleasure and honor to have you as part of our team.

Thank you for all your contributions to PREM and the STEM community.



ONLINE FIELD TRIPS BRING SCIENCE ACROSS WISCONSIN

March 12, 2021 By Megan Costello For news media

During the spring semester, high school students at KM Global School in Wales, Wisconsin, will take a field trip to the University of Wisconsin–Madison, where they will turn an Easter egg into a little generator.

But the students won't exactly be in the lab at the university. Instead, they'll log online and participate in a Zoom classroom where they'll meet with scientists from the UW–Madison Materials Research Science and Engineering Center Education and Outreach Group. The students will build triboelectric nanogenerators using a bouncy ball, an Easter egg, aluminum foil, clear office tape, a few wires, and an LED light.

That activity is part of 28 field trips organized by the Discovery Outreach team this spring with nine school districts across Wisconsin. Field trip workshops are geared toward K-12 students of all ages with activities like the triboelectric nanogenerators; "Finding Buried Treasure," with a fossil activity led by the UW Geology Museum; and "Meet the Lab: Cancer Detectives – Superpowered by Laser Microscopes," led by the Melissa Skala lab at the Morgridge Institute for Research, where students uncover some of the patterns researchers use to find new cancer treatments.

For more than 10 years, Discovery Outreach, a collaboration between the Wisconsin Alumni Research Foundation, the Morgridge Institute for Research, the Wisconsin Institute for Discovery and UW–Madison, has been running the Field Trip Program at the Discovery Building. This program has brought students and teachers to Madison for a day of activity and exploration. But when the COVID-19 pandemic shuttered on-campus outreach activity, the Discovery Outreach team had to get creative.

"We started to dig in and say, 'O.K., what can we bring to this new online environment that will thrive? What is our sweet spot?'" says Samantha Mulrooney, program manager at the Wisconsin Alumni Research Foundation.

That sweet spot is to connect schools to UW–Madison scientists and researchers with an online approach that is engaging, inspiring and fun, says Val Blair, senior outreach coordinator at the Morgridge Institute.

"Bringing kids to campus makes them feel like this could be where they could go someday," says Anne Lynn Gillian-Daniel, education director at the Materials Research Science and Engineering Center, MRSEC.

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“The Discovery team has been fantastic partners in every way,” says Matt Stilwell, associate director of education at MRSEC and a co-creator of the triboelectric nanogenerator activity. “I think one of the things that we’re learning from these pandemic times is centered around these kits. This is potentially a way for us to interact with people moving forward.” MRSEC is also thinking about how to extend engagement, such as adapting activities for different ages and abilities, adds Stilwell.

“If students can actually meet a scientist and hear what their favorite color is, or where they went to school — and maybe they’re from your same rural hometown — that’s the impact that we are so proud to make,” Blair says.

Everyone is quick to point out that in-person field trips to campus are the most impactful experience for students: the trip itself, the hands-on experience, and the lab spaces always bring a ‘wow’ factor. “Bringing kids to campus makes them feel like this could be where they could go someday,” says Anne Lynn Gillian-Daniel, education director at the Materials Research Science and Engineering Center, MRSEC.

But until it’s safe to return, the Discovery Outreach team is trying to capture the real science online. One way is to create a shared experience for each field trip. That may include a kit mailed to each classroom with materials for building nanogenerators, or it may be a video tour of a researcher’s lab, or even a link containing images from cancerous tumors collected off a microscope in the Morgridge Institute.

Field trips are kicking off in March, so the Discovery Outreach team is working with researchers, scientists and partners like MRSEC to develop shared experiences.

The pandemic’s limitations have presented new opportunities for expanding and engaging schools that would not be able to attend in person due to distance or other factors. And there is a renewed effort to incorporate accessibility into activities like the field trips, says Gillian-Daniel. While some households or classrooms may have foil and an Easter egg available, mailing a kit with all of the components ensures everyone has the tools to participate and can hop right in.

“If you give them a kit, you’re making things accessible to all of the students and you aren’t making any assumptions at a time when accessibility is such an issue,” says Gillian-Daniel.

Participating schools include: Gibraltar School District in Fish Creek; KM Global in the Kettle Moraine School District in Wales; the LUMIN Online School with locations in Milwaukee, Racine and Beloit; Muskego Middle School in Muskego; Oconto Middle School and Bayshore Community Academy in Oconto; Olson, Leopold, Cherokee Heights and Capital High in the Madison Metropolitan School District; the Taylor/Price County 4H in Medford; Thoreau Elementary in the Milwaukee Public School District; and the Upward Bound/Forward Service Corporation with locations statewide.

GET IN TOUCH!

Be a member of our community and learn about all the programs and activities we have to offer!

We are looking forward to start a project with you!

Wisconsin Puerto Rico
Partnership – PREM
Chemical Engineering
Call Box 9000
Mayagüez, PR 00681-9000

Contact

Phone: 787-832-4040; Ext. 5859

Fax: 787-265-3818

Email: wiprem@uprm.edu

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