



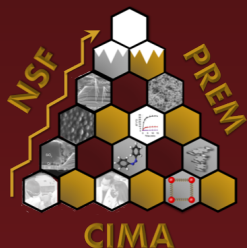
NSF PREM Center for Intelligent Materials Assembly (CIMA)



Letter from the Director

As the first semester of our National Science Foundation (NSF) Partnership for Research and Education in Materials (PREM) Center for Intelligent Materials Assembly (CIMA) comes to an end, we reflect on the activities that were carried out during our first semester and celebrate the accomplishments of our center's students and faculty. During our first semester, we recruited our inaugural PREM Researcher cohort and organized eleven PREM events that impacted our PREM Researchers, Associates and Faculty. Our faculty published the two first peer-reviewed papers with PREM support and student coauthors, and our students presented 12 poster presentations summarizing the results of their research. As we move onto our second semester, we are committed to continue supporting our members through inspiring educational and research activities.

Sincerely, *Janis Betancourt*



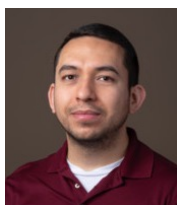
NSF PREM Center for Intelligent Materials Assembly (CIMA)



Inaugural PREM Researcher Student Cohort

We would like to take the time to celebrate our inaugural student class and wish you all the best as you finish the semester and recharge your batteries for a new semester of growth.

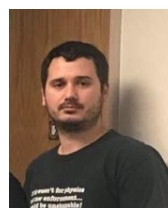
MSEC Ph.D. Students



Luis Albiter



Tuhin Dey



Dean Koehne



Kushal Thapa

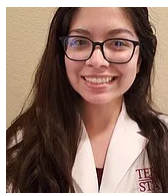
M.S. Students



Patrick Kollias



Michael Urena



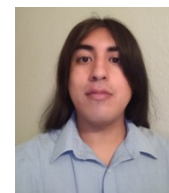
Jennifer Navarro



Marvin Santiago



Scott Barrett



Rigo Mayorga-Luna

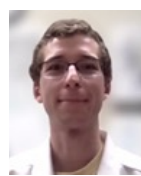
Undergraduate Students



Eniola Adegbola



Kathleen Bailey



Carter Cunningham



Kobe de la Paz



Methias Dowdle



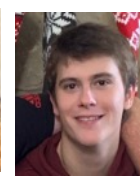
Idania Galvan



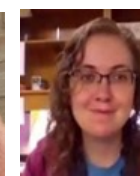
Jacobo Garza



Grace Haya



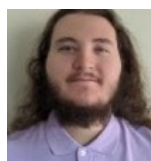
Nicholas Lontkowski



Christy Meyer



Zeke Montes



Gabriel Pohlman



Lilian Roe



McKenzie Siller



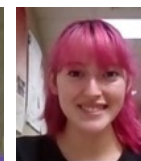
Venus Stanton



Madeline Tello



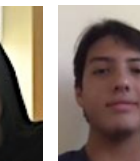
Edgar Torres



Adelyne Towne



Joanna Zepeda



Dillon Zimmer



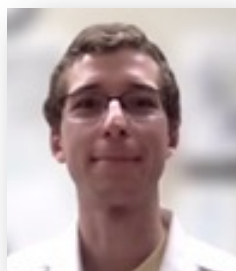
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Fall 2021 Student and Faculty Achievements

First Time PREM Student Authors

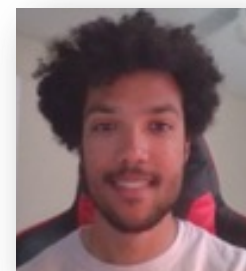
Becoming an author of a peer-reviewed publication is a big milestone. It demonstrates your intellectual contribution to a project. First time authors will receive a certificate of recognition from PREM. Congratulations to all!



Carter Cunningham



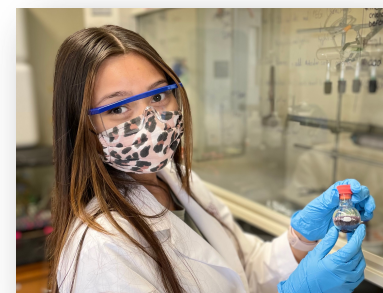
Grace Haya



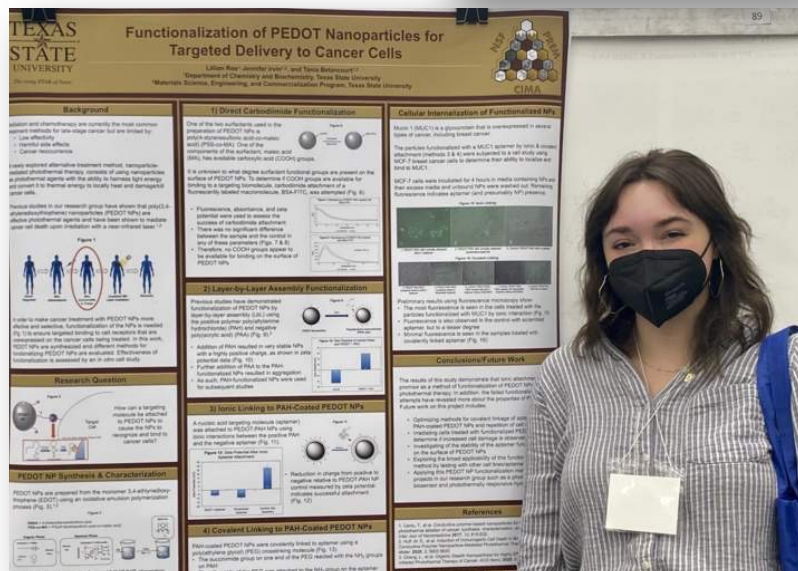
Venus Stanton

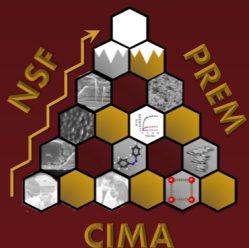
PREM Students who Received Awards

Joanna Zepeda was accepted into the U-RISE program as a U-RISE Scholar through which she will continue her PREM research through her graduation in the Spring of 2022. Through the U-RISE program, Joanna has applied to graduate school programs for the Fall 2022.



Our very own undergraduate student **Lilian Roe** won the Outstanding Undergraduate Poster Presentation in Materials Chemistry award at the ACS Southwest Regional Meeting in Austin, TX, for her work on the development of strategies for functionalizing the surface of photothermal poly(ethylenedioxy thiophene) nanoparticles. Lilian is also graduating this semester with her Honors Thesis. Congratulations Lilian!





NSF PREM Center for Intelligent Materials Assembly (CIMA)



PREM Students Graduating in Fall 2021

Two undergraduate students from our inaugural PREM class are graduating this Fall. Congratulations to Kobe de la Paz and Lilian Roe. Our best wishes on your future endeavors.



Kobe de la Paz



Lilian Roe



PREM Faculty who Received Awards

PREM Faculty member Dr. Jennifer Irvin, Professor in the Department of Chemistry and Biochemistry, has been selected as the recipient of *The 2021-2022 Graduate College Outstanding Mentor Award*. This award recognizes a faculty member who has had extraordinary success in mentoring graduate students. Congratulations to Dr. Irvin for her excellent work!

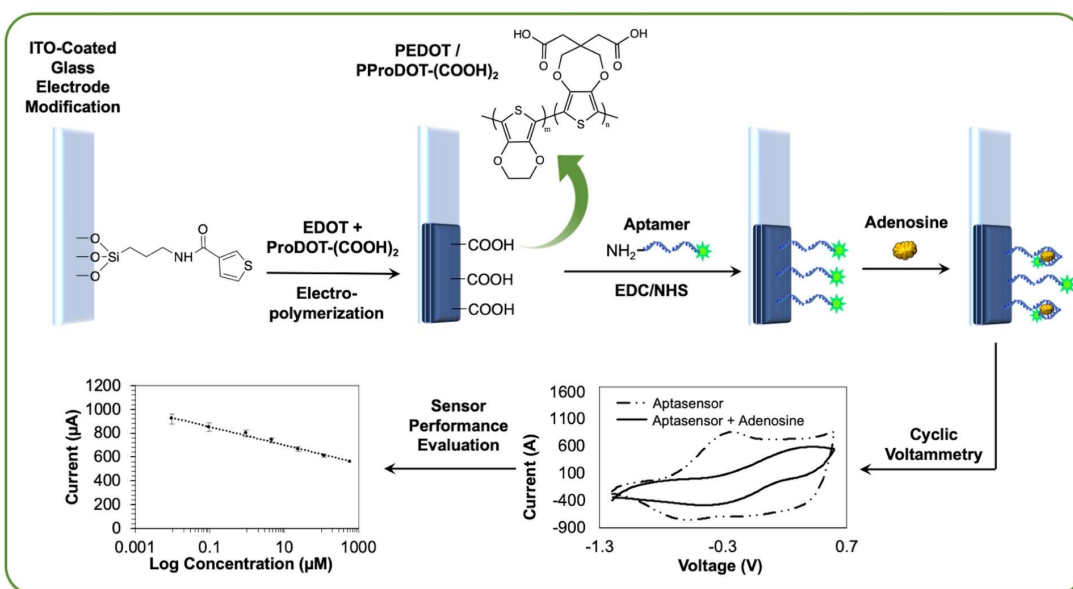
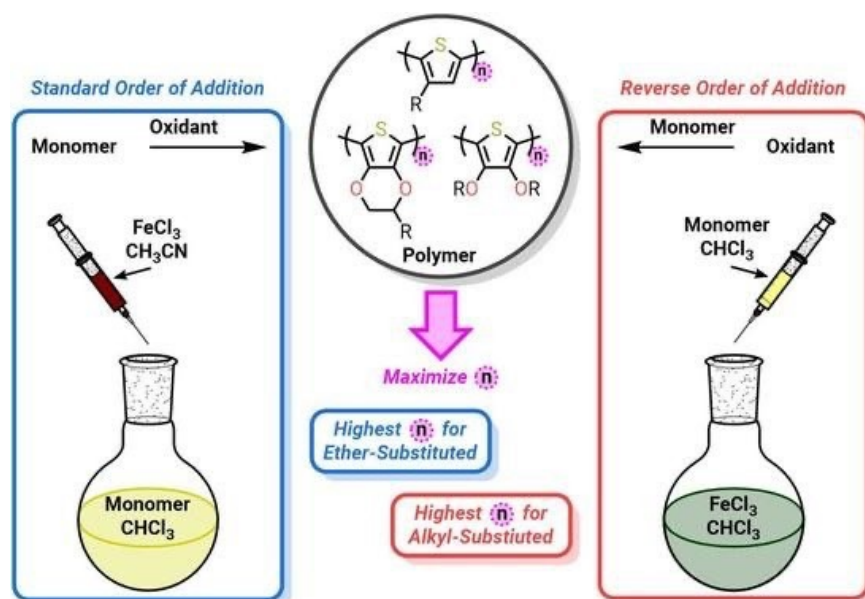


Publications with PREM Support

PREM student authors underlined
PREM faculty **bolded**

Hebert, D. D.; Naley, M. A.;
Cunningham, C. C.; Sharp, J.;
Murphy, E. E.; Stanton, V.; &
Irvin, J. A. Enabling Conducting
Polymer Applications: Methods for
Achieving High Molecular Weight
in Chemical Oxidative
Polymerization in Alkyl- and Ether-
Substituted Thiophenes.

Materials, **2021**, *14*, 6146. [Link](#)



Runsewe, D. O.; Haya, G.; **Betancourt, T.**; **Irvin, J. A.** Conductive polymer-based electrochemical aptasensor for the detection of adenosine. *ACS Appl. Polym. Mater.* **2021**, published online ahead of paper publication. [Link](#)



NSF PREM Center for Intelligent Materials Assembly (CIMA)



Poster Presentations with PREM Support

PREM student authors underlined

PREM faculty **bolded**

@ 2021 American Chemical Society (ACS) Southwest Regional Meeting

- Myhre, M.; Garza, J. L.; David, W.; **Kerwin, S.M.** "Stable G-Triplex within the Promoter Region of the C-MYC Proto-Oncogene"
- Acosta, M., Santiago, M. D., Towne, A. C., Martinez, A., **Irvin, J. A.** "Conducting Polymer Coatings on Electrospun Polyacrylonitrile and Polycaprolactone."
- Santiago, M. D., Towne, A. C., Muzzio, N., Romero, G., **Irvin, J. A.** "Polypyrrole-polycaprolactone-magnetic nanoparticle nanofiber composites for nerve regeneration."
- Runsewe, D. O., Haya, G., **Betancourt, T.**, **Irvin, J. A.** "Aptamer-Functionalized PEDOT-ProDOT Copolymers for the Electrochemical Detection of Diseases."
- Burke, K. K., Pohlman, G. E., Runsewe, D. O., **Irvin, J. A.**, **Betancourt, T.** "Diazone-Functionalized Polypropylenedioxythiophenes for Aptamer Attachment via Click Chemistry and Subsequent Detection of Biomolecules,"
- Hebert, D. D., Naley, M. A., Cunningham, C. C., Sharp, D. J., Murphy, E. E., Stanton, V.; **Irvin, J. A.** "Maximizing degree of polymerization in chemical oxidative polymerization of thiophenes."
- Roe, L.; **Irvin, J. A.**; **Betancourt, T.** "Functionalization of PEDOT Nanoparticles for Targeted Delivery to Cancer Cells." **Winner of Outstanding Undergraduate Poster Presentation in Materials Chemistry.**
- Zepeda, J.; FitzSimons, T. M.; Rosales, A. M.; **Betancourt, T.** "Photothermally Responsive Hydrogels Based on Dynamic Covalent Bonding."

@ 2021 Materials Research Society (MRS) Annual Meeting

- Santiago, M.; Towne, A.; Muzzio, N.; Romero-Urbe, G.; **Irvin, J.** "Conducting polymer coated nanofiber composites for nerve regeneration."
- Luna, R.; Runsewe, D.; Ford, M.; **Betancourt, T.**; **Miyahara, Y.** "Charge transfer through individual DNA molecules, measured by mechanically-detected electric charge sensing."
- Dey, T.; Reza, M. S.; Arbogast, A.; **Wistey, M. A.** "Epitaxial Growth of Tensile Strained GeSnC."
- Barrett, S. L.; **Brittain, W. J.** "Reconfigurable Ion Pairs."



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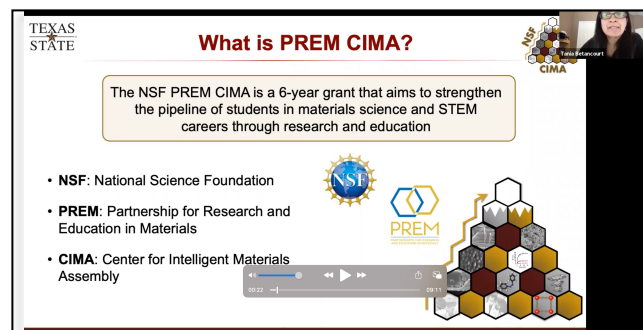
Summary of 2021 PREM Activities

August 19 – Bobcats @ the Bench. This was a recruiting event for incoming undergraduate students. Presentations introducing students to research programs including PREM and U-Rise were followed by laboratory tours.



August 30 – Kick-off Meeting. The meeting highlighted educational and collaborative research activities that are being implemented internally and in partnership with our MRSEC collaborators to enhance student engagement and success, and to elevate our research productivity in materials research.

September 10 – PREM Researcher Orientation Meeting. This meeting introduced our 10 graduate and 20 undergraduate students to the perks and expectations associated with being a PREM researcher.



September 17 – Hispanic Serving Institution Week Forum. Dr. Betancourt highlighted the impact that we expect our PREM will have on our campus.

September 24 – PREM Associate Open House. 39 new PREM Associates were introduced to undergraduate research and to the research interests and laboratories of PREM faculty during lab tours.

STEM OPEN HOUSE

- Are you pursuing or considering a STEM degree?
- Are you curious about research activities at Texas State?
- Are you interested in learning how you can get involved in research?

- Learn about undergraduate research opportunities
- Tour research laboratories in chemistry, biochemistry and physics
- Meet with students and faculty who are part of the Texas State Partnership for Research and Education in Materials Center for Intelligent Materials Assembly (PREM CIMA)

Learn more about PREM CIMA: www.cse.tstate.edu/prem

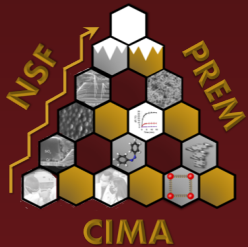
When and Where?: Friday, September 24, @ 12:00 – 4:00 pm in UAC 208

How to Sign-Up: Use the QR code provided
Or fill out a short application at: <https://forms.office.com/r/nPBd8v3br>
*If you can't attend, you can still be added to our contact list using this link

Application **deadline** is September 23, 2021
Although we may be able to accommodate walk-ins on Friday

Sponsors & Organizers

NSF PREM Center for Intelligent Materials Assembly (CIMA)

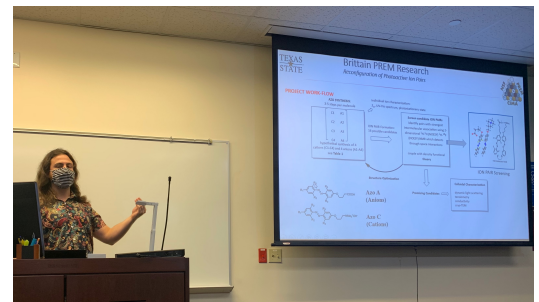
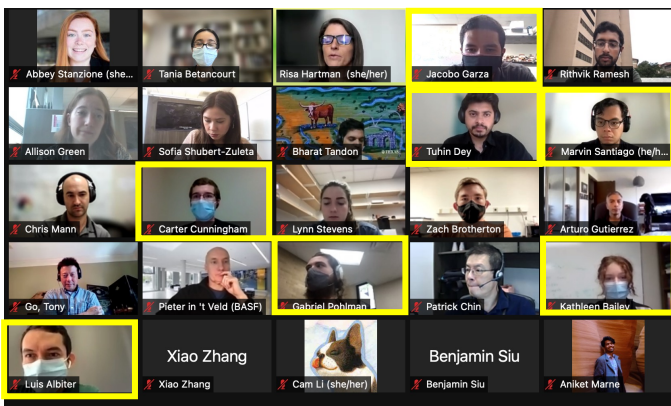


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Summary of 2021 PREM Activities (Cont.)

October 8 – Research Meeting. PREM Students Scott Barrett and Rigo Mayorga Luna presented their research to the group.



October 20 - MRSEC Industrial Mentoring Program Kick-Off. Several of our PREM students begun a year-long mentorship relationship with industry contacts through this MRSEC program. PREM students encircled.

October 22 and November 5 – Workshop on Applications to Graduate School, REUs, Fellowships and Scholarships. Students received information on available opportunities (including those in our MRSEC partners' programs) and typical requirements, followed by a hands-on workshop where they received feedback on their application materials.

November 5 – Research Meeting. PREM Students Tuhin Dey and Marvin Santiago presented their research to the group.

November 19 – Materials Science Career Panel. Our seven panelists spanned academia (including a faculty member from our MRSEC partner), a national laboratory, startup companies and large companies and provided input on how to best prepare for a career in their industry.

November 19 & December 10 – Faculty Mentoring Training. Faculty received training using curriculum from the Center for the Improvement of Mentored Experiences in Research (CIMER) to ensure both mentor and mentee success.

NSF PREM Center for Intelligent Materials Assembly
Career Panel

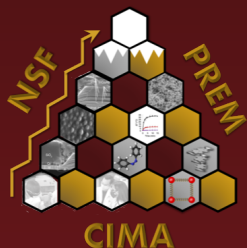
Friday, November 19 | 12:00 – 1:00 pm | UAC 208

Meet our Panelists

 Carlos Corona Nabaco Inc.	 Dr. Kevin Doyle Raytheon Intelligence & Space	 Dr. Krishna Kowji Quantum Materials Corporation	 Dr. Manish Kumar University of Texas at Austin
 Dianna Lopez Los Alamos National Laboratory	 Dr. Christopher Reyes X-Celeprint	 Dr. Dave Weaver Ion Biosciences	

Hear about what our panelists do and how they got there |
 Gain personal insight into post-graduate life and career paths |
 Engage in discussions and grow your network

To become a PREM Associate/Researcher:
<https://www.cose.txstate.edu/prem/>
 Fill in "How to Get Involved" form



NSF PREM Center for Intelligent Materials Assembly (CIMA)



Winter Break ‘Homework’ for PREM Students

Take advantage of the winter break to do something that can open the doors to your future career:

- Complete your Responsible Conduct of Research (RCR) training online (see Canvas site for instructions) and send your certificate to PREM Director, Dr. Tania Betancourt
- Update your CV and resume
- Advance your research
- Prepare your application for a Research Experience for Undergraduates (REU)
 - Through the National Science Foundation [REU Program](#)
 - With our [MRSEC partner](#)
- Identify internal and external scholarships
 - Texas State [BOSS System](#)
 - American Chemical Society [Scholars Program](#)
 - American Physics Society scholarships for [all students](#) and for students from [underrepresented](#) backgrounds
- Investigate graduate school programs for application in 2022
- Search for graduate fellowships:
 - National Science Foundation [Graduate Research Fellowships](#)
 - [GEM Fellowship](#)
 - [Ford Foundation Fellowship](#)
 - Browse through other resources:
 - NCSU [fellowship summary](#)
 - [Pathways to Science](#)
 - [STEM Grad Students](#) @ Science.gov
 - [ProFellow](#)





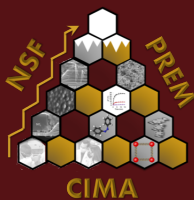
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Connect with PREM and Affiliates



<https://www.cose.txstate.edu/prem/>



PREM Director: Dr. Tania Betancourt
tania.Betancourt@txstate.edu
(512) 245-7703



<https://www.linkedin.com/groups/8431684/>



<https://mrsec.utexas.edu/>



<https://prem-dmr.org/>



<https://www.nsf.gov/>