

REU Site: Polymer Innovation for Sustainable Future

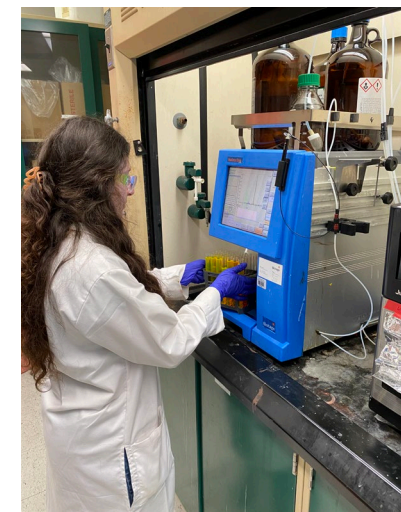
Sarah E. Morgan, University of Southern Mississippi

In 2023, twelve students representing institutions throughout the United States (including two community college and eight PUI students) participated in ten weeks of integrated research and education. Students are engaged in research to develop sustainable approaches to materials development to meet critical societal needs. Research areas included:

- Polymers synthesized from renewable sources
- Biodegradable materials
- Reversible and repairable materials
- Materials with enhanced properties and lifetimes
- Reduced energy polymer processes
- Materials to improve utilization of natural resources



Clockwise from top 2023 REU Cohort; REU participant Syba Ismail (Qiang lab) conducting research on the Biotage Flash Chromatography System; REU participant Wyatt George (Patton lab) filling a dewar flask with liquid nitrogen.



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REU students spend ten weeks conducting hands on research under the guidance of a graduate student mentor and a faculty advisor. They present their research orally three times during the summer and compete in a final poster presentation, this year being held at a joint conference of the MS NSF EPSCoR and NIH IDeA Networks. The competition winners received a travel award to present at the 2023 IDeA South Eastern Region Conference and the 2024 national ACS Spring Meeting.

Throughout the summer, REU students participate in professional development including polymer science and engineering classes, communications and abstract writing workshops, teambuilding, and field trips to local industry and national labs. They also held outreach events hosting students from Covington County Boys and Club and the Frances A. Karnes Centre for Gifted Studies.

Clockwise from top 2023 REU Cohort participating in teambuilding; REU participant Patrick Boyd (Clemons lab) conducting the Elephant Toothpaste demonstration to students; REU participant Morgan Gunter (Ma lab) presenting at the MS IDeA/EPSCOR Conference; REU participant John Searles (Morgan lab) at Western Container field trip

