

Posting Title: Research Assistant – Thermoforming Thermoplastic Composites Winter/Spring 2025

Anticipated Start Date: Jan. 6, 2025

Estimated Pay: \$16.00 per hour

Number of Jobs Available: 2

Schedule: Mon-Fri. hours flexible based on class schedule

Location: Composites Manufacturing Science Lab

Job Advertisement Summary:

The Center for Composite Materials invites highly motivated graduate students eager to learn and apply experimental techniques related to thermoforming and composite fabrication to join our team.

About:

The Center for Composite Materials is an internationally recognized, interdisciplinary center of excellence for composites research and education. The research conducted at CCM varies from fundamental science to applied engineering involving multidisciplinary skills from basic physics and chemistry to mechanical, materials science and chemical engineering.

Primary Responsibilities:

This research position involves performing hands on experimental research in the area of thermoplastic composites processed via thermoforming.

- Cutting fabric, pure polymer sheets, and/or pre-consolidated composites; heating with an IR oven; and applying consolidation pressure to fabricate flat panels.
- Preparing test coupons using a surface grinder, applying tabs, and painting speckle patterns for accurate measurement.
- Conducting mechanical tests utilizing 3D digital image correlation (DIC) for precise analysis of material performance.
- Performing thermal analyses with equipment including TGA, DSC, TMA, DMA, and LFA to evaluate material properties.

Qualifications:

- Fundamentals of thermoplastic composite processing, materials science, and engineering principles.
- Proficiency in data analysis software such as Excel, MATLAB, or Mathematica.
- Strong attention to detail and meticulousness in conducting hands-on laboratory work.
- Eagerness to learn and apply experimental techniques related to thermoforming and composite fabrication.

This position offers the opportunity for training in the processing of thermoplastic composites via thermoforming, as well as in the use of standard materials characterization equipment, including thermal analysis techniques (DSC, TGA, DMA), optical and electron microscopy, and mechanical testing in accordance with ASTM standards.

Be part of a world class research organization and build your future today!

To apply, send your resume and cover letter to Sai Aditya Pradeep at spradeep@udel.edu by November 30, 2024.