

join
our
team

We're
Hiring

Your success
starts here

Research Associate II

- US Citizen or Permanent Resident required due to funding source.
- Bachelor's degree in Mechanical Engineering and three years' experience with emphasis on composites manufacturing or equivalent combination of education and experience.
- For details and qualifications go to [UD Careers](#) for job description and how to apply.

Postdoctoral Researcher Opportunities

NASA University Leadership Initiative (ULI) program:

- Develop science-based part/process modeling methodology for TuFF composites meeting aerospace performance and safety at automotive manufacturing rates.
- Manufacturing research, technology transition and education (including HBCU's) of students and workforce.
- [Click here for details and how to apply.](#)

Materials in Extreme Dynamic Environments (MEDE) Program:

Machine Learning

- Develop the machine learning framework for glass fiber-matrix interphase considering wide range of resins and sizing chemistry; variability in interphase topology – monolayer versus multi-layer sizing; and pressure/temp/strain rate effects.
- Input data for the machine learning should be generated from all-atom and/or coarse-grain (CG) MD simulations.
- [Click here for details and how to apply.](#)

Physics of Soldier Protection Program:

Polymer Modeling

- Develop strain-rate and structure dependent constitutive model for thermoplastic polymers (PE and TPU) and to understand their interaction mechanism with ceramics (SiC and B4C) for high velocity impact applications using MD simulations.
- [Click here for details and how to apply.](#)

Computational Modeling

- Conduct nano-mechanical to micro-mechanical modeling of UHMWPE fibers and [0/90] sub-laminates in predicting the continuum properties for unidirectional and [0/90] sub-laminates.
- Conduct parametric simulations in LS-DYNA using a usermat umat41. Validate all computational predictions with experimental measurements.
- [Click here for details and how to apply.](#)

U.S. Army CCDC Army Research Laboratory

Composites Research, Engineering and Advanced Technology (CREATE) Program:

- Experience using microscopic characterization (optical microscopy, SEM, etc.), mechanical testing (tensile, compression, shear, etc.) and continuum level simulation of composite materials to study the role that microscopic structure and damage mechanisms influence observed macroscopic properties.
- Must be in the US with valid work authorization.
- Email your resume to [Kristen Scully](#)