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ECONOMICAL AND SUSTAINABLE MATERIALS STRATEGIC GROWTH AREA VIRGINIA TECH™

Greetings from the ESM SGA at Virginia Tech!

Exciting new waves are being made in the technology sphere this month, with groundbreaking research, academic promotions, and award-winning faculty. To stay up-to-date on daily news, please follow our Twitter feed ([@MaterialsSGA_VT](#))!



Virginia Tech helps lead broadest study of battery electrode failure in new journal article

Feng Lin, Assistant Professor of Chemistry and an affiliated faculty member of the Macromolecules Innovation Institute, co-led an international study that detailed the broadest understanding of what happens during battery electrode failure.

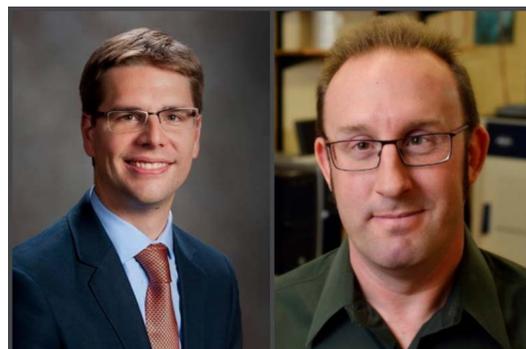
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Stakeholder Timothy Long Receives Award from ACS

Professor Tim Long has been awarded the Chemistry of Thermoplastic Elastomers Award by the Rubber Division of the American Chemical Society.

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ESM SGA Faculty Lead Named Virginia Tech Faculty Fellow

Amanda Morris was named one of three faculty designated to lead planning for university shared research facilities.

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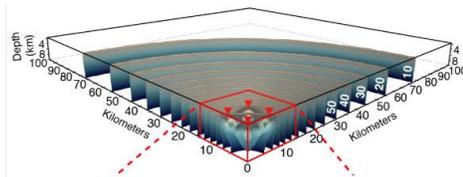
Virginia Tech Board of Visitors approve promotion of SGA stakeholder; funded research group lead

The Virginia Tech Board of Visitors approved the following promotions, tenure, and continued appointments at its June 3 meeting.

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Introducing the Computational Materials Modeling Database

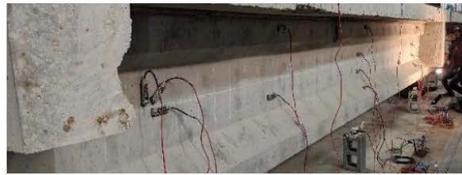
Research Areas



Fluid Mechanics

The study of fluid flow and mass transport in different media. Such as prediction of wind gusts in a hurricane, air flow over airplane wings, mass transport during manufacturing processes, molten material flow during casting, drug flow in patients, and blood flow in arteries and hearts.

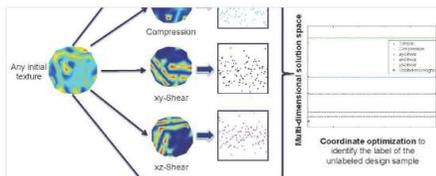
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Fracture, Damage, and Impact Mechanics

The science- and physics-based computational models of failure criteria, crack initiation, propagation, and fatigue damage under different static or dynamic loads to revolutionize component designs.

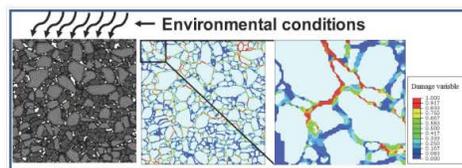
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Machine Learning

Application of machine learning to understand and predict the behavior of materials, the use of algorithms and statistical models to effectively perform a simulation without using explicit theoretical physical models, relying on patterns and inference instead.

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Multiphysics and Multiscale Modeling

Multi-physics and Multiscale modeling involve studying coupling among mechanical, thermal, electrical, magnetic, chemical, and moisture-absorption induced loads/effects on materials and structures across different length and time scales.

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The Computational Materials Modeling Database provides an integrated resource site of Virginia Tech researchers engaged in computational modeling of materials. Based on your topical area of interest, find VT faculty, students, funding agencies, and external partners at Virginia Tech in order to form valuable partnerships.

[Learn More](#)

Introducing Our Inaugural ORNL Summer Interns

The ESM SGA sponsored four students for a paid summer internship at Oak Ridge National Laboratory.

ESM SGA Sponsors Students for Summer Internship at ORNL



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