

**The VFS Southwest Chapter
invites you to join us for**



RSVP here!

a presentation by
Dr. Xin (Jeffrey) Liu
Assistant Professor
MAE Dept. at UT Arlington
Wednesday, November 18, 2026



**Development of Lattice Metamaterials for
Impact-Resistant Structural Components
in Advanced Air Mobility Aircraft**

Advanced Air Mobility (AAM) aircrafts require lightweight, high-performance structural components capable of sustaining impact loading while maintaining structural efficiency and safety. Additively manufactured (AM) lattice metamaterials provide a promising pathway toward next-generation aerospace structures due to their tailorable mechanical behaviors enabled by engineered internal architectures rather than solely material composition. This work presents the development of sectionally reinforced lattice metamaterials for impact-resistant aerospace structures using a combined experimental, computational, and artificial intelligence (AI)-assisted multiscale modeling framework. Novel I-beam and reinforced I-beam lattice topologies were developed to enhance stiffness, strength, and energy absorption capabilities under quasi-static and low-velocity impact loading. Experimental tests demonstrated substantially improved structural performance compared to conventional lattice designs.

Dr. Xin Liu is an Assistant Professor in the Department of Mechanical and Aerospace Engineering at the University of Texas at Arlington and a faculty member of the Institute for Predictive Performance Methodologies (IPPM) at the UTA Research Institute.

Price:

Members: \$32

Member Guest: \$37

Non-Members: \$42

Students: FREE

Tickets purchased after RSVP deadline will incur add'l \$5 fee.

Time and Location:

Texas Star, 1400 Texas Star Parkway

6:00 PM – Doors Open

6:30 – 8:00 PM – Dinner, Presentation, Q&A

*** Cash/payroll deduction discount of \$2**

For additional information on the event or VFS, please feel free to contact one of the following people:

Casey Matsler

(940) 435-5141

Khyati Mahavadia

(817) 247-5181

**Please RSVP by completing the online form [HERE](#) or through PayPal at southwest.vtol.org by
5:00pm, Thursday, November 12th, 2026**

If you have any issues with the form, please email Casey Matsler at cmatsler@bellflight.com