

We are pleased to present the following speaker for our March 11 virtual meeting – Details to follow!

Additive Manufacturing of Continuous Carbon Fiber/Thermoset Composites

Kelvin Fu

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Abstract

Additive manufacturing (AM) of lightweight and energy-efficient composites using continuous carbon fibers and thermosetting polymers offers great opportunities for advancing composite manufacturing with design flexibility,

low cost, reliability and repeatability. However, the material, architectural, and technical limitations make existing AM technologies unavailable for printing structural and functional thermoset/continuous carbon fiber composite. To date there has been no AM technique available to make such composites. In this talk, Fu will introduce a new 3D printing technique, called localized in-plane thermal-assisted (LITA) 3D printing, developed at Fu's lab. The LITA technology is by creating a controllable and dynamic processing window to enable curing of liquid thermoset polymer in continuous carbon fiber structure, realizing a feasible 3D printing of thermoset/continuous carbon fiber composite with near net shape, complex geometry, and programmable performance. LITA 3D printing technique has

received CAMX Awards for Composites Excellence (ACE) in Manufacturing: Equipment and Tooling Innovation Award by American Composites Manufacturers Association (ACMA).

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MEETING DETAILS

This will be a virtual meeting utilizing Microsoft Teams. There is no charge for the meeting, which will begin at 12 noon on Thursday, March 11.

**Log-in details will follow with
an email blast in a few days.
Save the date/time**

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Biography

Kelvin Fu is an assistant professor in Mechanical Engineering at the University of Delaware and an affiliated professor in the UD Center for Composite Materials (CCM). Fu directs Composites & Additive Manufacturing (CAM) Laboratory. Fu's research is focused on Materials and Manufacturing Innovation in multiscale composite design, manufacturing, and applications. Fu is the recipient of CAMX Awards for Composites Excellence (ACE) in Manufacturing: Equipment and Tooling Innovation Award from American Composites Manufacturers Association (ACMA), Young Composites Researcher Award from American Society for

Composites (ASC), and SAMPE Young Professionals Emerging Leadership Award. Fu has published over 100 peer-reviewed articles with citations over 10000 times. For more information, please visit www.kfu-group.com.

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2020– 2021 Meeting Schedule

**September 17, 2020 – Jacob Shevrin,
Evonik Corp.**

**September 21-24 – CAMX, On-Line
Conference**

**October 15 Golf Outing, Picatinny
Arsenal**

**December 3, 2020 – Brian Kleinheinz,
BYK Inc.**

**January 14, 2021 – Francisco De Caso,
Univ. Miami**

**February 4, 2021 – Richard Matthews,
Thumbprint Solutions Inc.**

**March 4, 2021 – Kelvin Fu, Univ. of
Delaware**

April 1, 2021 - TBD

May 6, 20201– TBD

**May 2021– SAMPE 2021, Long Beach
CA (Virtual event)**

**June, 2021 – 2nd Annual NJ Additive
Manufacturing Symposium, in collaboration
with Rutgers Mechanical Engineering
department – in planning stages now.**

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