TMS ⟨ LEARNING PATHWAYS:
Advanced Materials Manufacturing

December 7-9 · Virtual Event

REGISTER BY NOVEMBER 6, 2020 FOR THE BEST RATE!

Enrollment is limited to ensure a personalized experience for participants.

SECURE YOUR SPOT TODAY.

Customize a professional development program to your level of experience and technical interests, as well as the business goals of your organization, by participating in TMS Learning Pathways: Advanced Materials Manufacturing. With three crosscutting courses, you can choose to focus on a specific technical track in-depth, or mix and match technical track modules to build your own learning pathway.

WHAT YOU WILL LEARN

The overarching theme for the 2020 TMS Learning Pathways event is Advanced Materials Manufacturing. Attendees can choose sessions from among three short course tracks.

- **Machine Learning:** Develop insights and skills for creating, critically evaluating, and interpreting machine learning models for materials through real-world examples and hands-on instruction.

- **Additive Manufacturing:** Gain key knowledge of additive manufacturing processes and practices with an emphasis on understanding critical materials science and engineering problems and tools that can address them.

- **Lightweighting:** Understand the fundamental elements of materials engineering design, properties, and manufacturing processes and how they can be used in lightweighting applications.

LEAD INSTRUCTORS

MACHINE LEARNING	ADDITIVE MANUFACTURING	LIGHTWEIGHTING
Raymundo Arróyave, Texas A&M University	**Wei Xiong**, University of Pittsburgh	**Alan A. Luo**, The Ohio State University

Go online to download the attendee justification toolkit and register today!

www.tms.org/Pathways/AdvancedManufacturing

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PROGRAM SCHEDULE OVERVIEW

This table provides an overview of the program schedule, the topics that you can learn, and options for mixing and matching those topics. Each track offers introductory, intermediate, and advanced modules. You may pick your entry point and jump to the other topics to explore intersecting interests. Sign up to attend and begin planning your TMS Learning Pathways experience in Advanced Materials Manufacturing on the Registration page.

BUILD YOUR PROGRAM		MACHINE LEARNING Lead Instructor: Raymundo Arróyave, Texas A&M University	ADDITIVE MANUFACTURING Lead Instructor: Wei Xiong, University of Pittsburgh	LIGHTWEIGHTING Lead Instructor: Alan A. Luo, The Ohio State University
Dec. 7	Morning	Introduction to Machine Learning, Session 1	Introduction to Additive Manufacturing	Introduction to Lightweighting
	Afternoon	Introduction to Machine Learning, Session 2	Additive Manufacturing in Aerospace Engineering	Aluminum Alloys for Lightweighting
Dec. 8	Morning	Data Science and Alloy Design	Processing Optimization in Additive Manufacturing	Advanced Polymer Composites for Lightweighting
	Afternoon	Hands-on Session on ASCENDS	Standards Development and Data Management in Additive Manufacturing	Titanium Alloys for Lightweighting
Dec. 9	Morning	Optimal Experimental Design in Materials Science and Engineering	Feedstock and Post-processing of Additive Manufacturing	Advanced High Strength Steels for Lightweighting
	Afternoon	Cross-cutting Session for All Three Tracks		

You will receive course notes and materials for reference from all three tracks, regardless of which modules you attend, giving you three times the value of a single course.

Go to the course website for more information, including learning objectives and instructor backgrounds:
www.tms.org/Pathways/AdvancedManufacturing