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Wednesday, February 14, 2024
11:15 AM – 12:15 PM (ET) | Zoom

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Atieh Moridi

Assistant Professor

Cornell University

Advancing Metal Additive Manufacturing: From Operando Characterization to Coating Design and Process Innovation

ABSTRACT

In this presentation, three research topics are emphasized. Firstly, the focus will be on applying operando synchrotron x-ray diffraction studies to gain a profound understanding of the dynamic solidification behavior in metal additive manufacturing. Secondly, the discussion delves into the utilization of additive manufacturing (AM) for crafting advanced coatings suitable for high-temperature applications. Directed Energy Deposition (DED) is harnessed to produce crack-free functionally graded refractory coatings by leveraging the substrate dilution effect. Lastly, the presentation introduces a paradigm shift in the metal AM process through the innovative use of drop-on-demand technology and metal sheet feedstock.

BIOGRAPHY

Atieh Moridi is an assistant professor in the Mechanical and Aerospace Engineering Department at Cornell University. In recognition of her significant contributions to the field of additive manufacturing, she was recently appointed as the Aref and Manon Lahham Faculty Fellow in the college of engineering. Prior to her current role, she worked as a postdoctoral fellow at MIT in the Departments of Mechanical Engineering and Materials Science and Engineering. She earned her Ph.D. Cum Laude from Politecnico di Milano, Italy. She has received several honors including the NSF CAREER award, ONR young investigator award, DOE Early Career award, TMS early career award, and Johnson and Johnson Scholars Award.

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