

Advanced Manufacturing Seminar Series

Friday, April 16, 2021

10:00 AM – 11:30 AM (Pacific Time)

Registration link: https://usc.zoom.us/webinar/register/WN_3zuU3UdYSSKvT5CvyZuxow

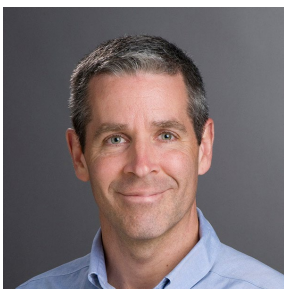
Metal Additive Manufacturing Via Jetting of Molten Metal Droplets

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Abstract: This seminar will introduce attendees to an emerging metal additive manufacturing process that produces parts via on-demand jetting of molten metal droplets. Unlike traditional metal additive manufacturing processes such as powder bed fusion or binder jetting, the droplet jetting process uses wire, rather than powder, as the feedstock material. This greatly reduces cost and safety concerns. The absence of a powder bed also reduces feedstock carrying costs and eliminates complicated lot tracing procedures associated with blending of new and used powders. Process parameters such as drop size, jetting temperature, drop spacing, and jetting frequency all influence the dimensional accuracy, density, and mechanical properties of fabricated parts. An open architecture droplet jetting machine from Xerox (formerly Vader Systems) is used to demonstrate the influence of both process parameters and toolpath generation strategies on geometric accuracy, density, and microstructure of aluminum alloys.



Biography: Dr. Denis Cormier is the Earl W. Brinkman Professor of Industrial and Systems Engineering at Rochester Institute of Technology where he directs the New York State funded AMPrint Center for Advanced Technology. Dr. Cormier has worked in the area of 3D printing and additive manufacturing for 25 years. Since joining RIT in 2009, his research has focused on technologies such as multi-material inkjet deposition, direct-write processes including aerosol printing and microdispensing, and pulsed photonic sintering. Most recently, he has focused on development of a liquid metal droplet jetting additive manufacturing process. Prior to joining RIT, he was a professor

at North Carolina State University from 1994 – 2009.