

AMUG Announces Keynote Speakers for 2025 Conference

Ryan Watkins (NASA JPL) and Joe Scarbo (Scarbo Performance Corp) will share space exploration and performance vehicle journeys as keynote speakers.

ZEELAND, MI, UNITED STATES, January 10, 2025 /EINPresswire.com/ -- The Additive Manufacturing Users Group (AMUG) today announced its keynote speakers for the 2025 AMUG Conference, which will be held in Chicago, Illinois, from March 30 - April 3, 2025. Ryan Watkins, Research Engineer with NASA Jet Propulsion Lab (JPL), will take the stage on Tuesday, April 1. Joe Scarbo, President of Scarbo Performance Corp, will engage the audience on Thursday, April 3.

Watkins' and Scarbo's work traverses from the Baja Desert to Aspen Mountain to Pikes Peak and out into the solar system. From the stage, they will inspire through intriguing vehicle designs and exhilarating space exploration experiences. Their recounts of past and present projects will convey the messages of pragmatic decision-making coupled with innovation to push the boundaries of what is possible with additive manufacturing.



AMUG 2025 keynote speakers: Joe Scarbo (left), president, CEO, and founder of Scarbo Performance Corp, and Ryan Watkins, research engineer with NASA JPL.



SV Rover, a 1,100-horsepower Hypertruck, designed and manufactured by Scarbo Vintage.

Ryan Watkins' keynote presentation will have the central theme of 'linking design with additive manufacturing' in the context of developing 3D-printed, crushable structures for high-speed

impact attenuation applications. He will discuss the unique context that required NASA to develop this new class of crushable structures, along with the manufacturing and design barriers that were overcome to achieve this goal. Maybe more importantly, he will tell the story of technology infusion in the relatively conservative field of aerospace engineering, highlighting his successes and failures along this journey.



Perseverance Rover taking a 'selfie' while trekking across Mars to collect rock samples.

Joe Scarbo will take the AMUG

Conference stage to convey how, when, and why his company used additive manufacturing in its most recent performance vehicles. Under the Scarbo Vintage (SV) brand, his team has created the SV RSR, which raced in the Pikes Peak International Hill Climb as Ken Block's Hoonipigasus, and the SV Rover, which ran in the Baja 1000. Following the Baja race, the SV Rover transitioned into the world's first street-legal Hypertruck, powered by a 1,100-horsepower supercharged V8 or a 1,000-horsepower electric drive.

Both SV vehicles contain numerous additively manufactured parts. Throughout his keynote presentation, Scarbo will present his thoughts on why additive manufacturing was—or was not—the right process; thoughts that are grounded in his mechanical engineering, welding, machining, and racing pedigrees.

Ryan Watkins's Background

Ryan Watkins joined NASA's JPL nine years ago after earning a Ph.D. in aerospace engineering. He has worked on flight projects as a structural analyst and cognizant engineer, leading the design, build, test, and integration of launch restraint hardware for NASA's Surface Water and Ocean Topography (SWOT) and NASA-ISRO Synthetic Aperture Radar (NISAR) missions.

In his current role as a Research Engineer in the Materials Development & Additive Manufacturing group, Watkins focuses on the integration of advanced materials with computational design, such as topology optimization, to enable and support future NASA missions. This work includes generalizing topology optimization to complex material systems, additively manufacturing and modeling lattice structures, and 3D printing shape memory alloy systems. He also works to develop and foster JPL's topology optimization capabilities and integrate the requisite workflows into flight project practices.

In December 2024, JPL won 3D Printing Industry Award's aerospace, space, and defense

application category for Watkins' work on 3D-printed, crushable lattices. Also in 2024, his software, UnitcellHub, was named JPL's Software of the Year and was open-sourced to the public.

Joe Scarbo's Background

Joe Scarbo, a 'gearhead' and racer for his entire life, founded Scarbo Performance in 2008 as an engineering consultancy specializing in performance vehicles. In 2013, the company shifted to low-volume manufacturing of motorsport products and complete vehicles. Today, Scarbo Performance Corp includes four businesses that offer design (for both automotive and non-automotive products), performance after-market components, and bespoke vehicle manufacturing. Since its inception, Scarbo Performance has built more than 30 vehicles for other companies.

Scarbo's love for racing and cars started when he was just six years old. That passion led him to earn a B.S. in mechanical engineering and take on a job, while in college, designing and machining components for the Arciero Racing family. Following college, Scarbo went to work as an in-house mechanical design engineer for the Volkswagen Motorsport off-road race program—Baja racing with the Toureg TDI— and continued to work on elite projects with global leaders.

Attracted to the possibilities of additive manufacturing, Scarbo took a position with an Orange County, California, firm that leverages the technology in design and prototyping work for its clients' projects. That experience opened the door for Scarbo to become director of mechanical design for a consumer electronics company, where he leveraged additive manufacturing for design and testing. While the work was interesting and the experience valuable, Scarbo's passion for motorsports lured him to rededicate his time to Scarbo Performance.

About the AMUG Conference

Rounding out the featured presentations on the AMUG Conference stage will be a panel discussion with industry leaders representing AMUG's Diamond Sponsors on Monday, March 31, and the Innovators Showcase on Wednesday, April 2. The keynotes and featured presentations will kickstart each day of the conference and set the tone for nearly 150 presentations, panel discussions, workshops, and hands-on training sessions.

Designed for novice and experienced additive manufacturing users, the AMUG Conference agenda topics range from technology basics to advanced applications to business considerations. Conference details and registration are available at <u>www.amug.com</u>.

ABOUT ADDITIVE MANUFACTURING USERS GROUP (AMUG)

The Additive Manufacturing Users Group (AMUG), a 501(c)(6) nonprofit corporation, is a catalyst for its community of members to drive additive manufacturing forward. We are committed to

educating and advancing AM applications for industrial purposes. Our annual gatherings provide a platform for in-depth technical presentations, workshops, and hands-on experiences, focusing on processes, technologies, and real-world applications. Join us at <u>www.amug.com</u> to be part of the innovation shaping the future of manufacturing.

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