2023 AMUG CONFERENCE
EDUCATION & TRAINING CONFERENCE
March 19-23 | Hilton Chicago | Chicago, Illinois, USA

2022 ADVANCED CONCEPT WINNER
“Metal 3-D Printing Rases the Bar for the Army’s Jointless Hull Program”
Nanci Hardwick, MELD Manufacturing

2022 ADVANCED FINISHING WINNER
“Mars Attacks”
Bill Braune, Divermore, Inc.

2022 MEMBER’S CHOICE WINNER
“Metal 3D Printed Bathroom Favor”
Jung Kyo Im and Daniel Goncalves, Custom Prototypes
WELCOME TO
2023 AMUG CONFERENCE
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Welcome to the 2023 AMUG Conference. Our conference started in 1988 with just a handful of people meeting to share knowledge of the revolutionary new technology of 3D printing. These users pioneered a unique concept of a network ‘For Users, By Users’ as opposed to a users’ group that is run by a company. This autonomous freedom of AMUG has contributed a voice that encourages the AM industry to create hardware, software, materials and applications based on the users’ needs and input.

My first experience attending the conference as a user was in 1991. It was a truly open environment with discussions of everything from basic part orientation to the advanced algorithms involved in part-building parameters. But the most important things that I walked away with were the relationships developed with others in the same industry, friends that I could rely on for solutions and advice to get the most out of my AM equipment.

First-time attendees, we are diligent in our efforts to deliver that same experience to you, one that is both memorable and profitable for those that join us. If you are a returning attendee, you already realize the value of attending the AMUG Conference.

The AMUG Conference is the ‘jewel’ of the Additive Manufacturing community, and it would be impossible to view just one facet of this unique gem. What makes the AMUG Conference special? Is it the army of volunteers that organizes an event from the perspective of owners and operators? Is it the technical exchange of knowledge from presentations and hands-on training? Is it the networking and camaraderie of other users? These are just some of the reflections from the gemstone. But what makes AMUG truly special is in the center of this jewel—YOU. The jewel gains its brilliance from attendees that are willing to share and be part of this immersive experience with others.

While I am honored to serve as president of AMUG for 2023, it is my privilege to work with the many dedicated, passionate and talented people that make up our 20 committees, individuals who volunteer their time, expertise and skills in organizing this event year after year. Their contributions create an experience like no other in the industry. We encourage more users to participate and share their insights to grow the opportunity for others within the AM industry. Remember, this conference is “For Users, By Users”.

So, welcome to the 2023 Additive Manufacturing Users Group Conference. Take advantage of all the activities, networking and training that it offers.

M. Alphonse
"For Users, By Users" is both AMUG’s philosophy and its guiding principle. Every presentation, panel, roundtable, workshop, sponsor and exhibitor passes through one simple filter: does it provide value to AM users? That is the crux of “For Users.” We then turn to users to provide the content and count on them to make the conference valuable, memorable and unique. That is the “By Users” component.

AMUG ATTENDANCE HISTORY SINCE 1988

3D Systems Users Group (3DSUG)  
AMUG

AMUG ATTENDEE and Country Participation
(Attendee numbers only reflects paid conference attendees in attendance. Does not include no-shows, nor exhibitors or sponsors not participating as a paid conference attendee).

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*Global and Company travel restrictions due to pandemic
AMUG CONFERENCE
AMUG Conference begins Sunday, March 19 at 3:00pm with a New Member Welcome, followed by the start of the AMUGexpo at 4:00pm. AMUG Conference concludes Thursday, March 23 at 10:00pm. See Agenda-at-a-Glance pages 8-9.

REGISTRATION AND BADGE PICKUP HOURS
Sunday, March 19:  10:00am - 8:00pm  
Monday, March 20:  7:00am - 8:00pm  
Tuesday, March 21:  7:00am - 4:00pm  
Wednesday, March 22:  7:00am - 6:00pm  
Thursday, March 23:  7:00am - 11:00am

All pre-conference Training and Certification Courses require additional registration and fee. See page 16-17.

AMUGEXPO HOURS
AMUGEXPO AND DINNER
Sunday, March 19:  4:00pm -10:00pm
AMUGEXPO
Monday, March 20:  10:00am - 2:30pm
AMUGEXPO, TECHNICAL COMPETITION, AND DINNER
Monday, March 20:  6:00pm - 10:00pm

Diamond and Platinum booths are open all week - see daily schedule for times. AMUGexpo is part of the AMUG Conference. Separate tickets or attendance for the AMUGexpo are not available. AMUGexpo is open to all registered conference attendees and registered AMUGexpo booth staff.

DINING
Your AMUG Conference attendee pass includes all meals from Sunday evening through Thursday evening.

OFF-SITE EVENT AND DINNER
Conference attendees have full access to all conference activities including the AMUG Tuesday-night Off-Site Event and Dinner (surprise location!). Conference attendees have the option of bringing a guest for an additional fee, which can be purchased at the registration desk.

Bus Schedule

<table>
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<tr>
<th>Line up for Buses begins at:</th>
<th>Hilton Chicago</th>
<th>Palmer House</th>
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<td>Buses Board at:</td>
<td>5:15pm</td>
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<td>Buses leave at:</td>
<td>5:15pm - 5:30pm</td>
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How to Report an Issue:

1. Report directly on-site contacts: Thomas Sorovetz, Director, Events & Hospitality, Elizabeth Goode, AMUG Principal Consultant or any AMUG Board of Director member. Thomas Sorovetz is the primary coordinator to help participants contact venue security or local law enforcement, provide safety escorts, or otherwise assist those experiencing harassment to feel safe for the duration of the event.

2. Report an issue through the mobile app. Use the Report an Issue button in the mobile app to report event conduct and safety concerns.

SAFETY AND SECURITY
Please do not leave your belongings or conference materials unattended in session rooms or in the general area of the hotel. Should you have any issues during your stay, please contact Thomas Sorovetz, mobile: +1 (734) 320-6310, or visit the AMUG Office on the Lobby Level near the AMUG Registration desk.

WIFI
WIFI is available for free throughout the entire hotel and in your room. Code for the WIFI will be available through the mobile app and signage at registration.

NAME BADGES REQUIRED
Wear your AMUG badge at all times during the conference, as it is required for entry to all sessions and evening activities. Badges are mandatory for the Tuesday night event. Badges are issued to the registered individual and may not be used by others. A valid ID is required to obtain your AMUG badge.

IMPORTANT! BOARD OF DIRECTORS ELECTION
Attention all AMUG Members! The AMUG Board of Directors election will take place via the AMUG mobile app or in-person ballot. All paid conference attendees are eligible to vote. Voting will take place Sunday, March 19 at 10:00am to Tuesday, March 21 at 9:00pm (local conference time). All AMUG Conference attendees are considered AMUG Members, even first-time attendees.

BUSINESS MEETING
The AMUG Business Meeting will take place Wednesday, March 22 at 11:00am. The Business Meeting is for AMUG Conference attendees only. The 2023-2025 Board of Directors will be announced at the meeting. Please make sure to attend!

SAFETY AND SECURITY - WE VALUE YOU
AMUG is committed to providing a safe, productive, and welcoming environment to all participants, including staff and vendors. AMUG has no tolerance for discrimination, harassment, or bullying in any form at AMUG-related events and activities. In addition, suitcasing or outboarding is prohibited at AMUG Conference. AMUG Conference Organizer reserves the right to escort any individual from AMUG Conference who is reported to be soliciting in the exposition and who is not an AMUG Conference sponsor or exhibitor. AMUG Conference Organizer encourages attendees to support the paid sponsors and exhibitors who, in turn, are supporting the industry. AMUG Conference Organizer also encourages you not to listen to a sales pitch from a non-sponsor or exhibitor. Participants are expected to adhere to these principles and respect the rights of others.

WIFI
WIFI is available for free throughout the entire hotel and in your room. Code for the WIFI will be available through the mobile app and signage at registration.

GENERAL INFORMATION

You must wear your conference badge to board the bus. We suggest you wear closed-toe shoes and comfortable clothing appropriate for indoor and outdoor activities.
ENHANCE YOUR EXPERIENCE AT AMUG 2023 WITH THE
AMUG ONLINE PLANNER AND MOBILE APP

The AMUG Online Planner and Mobile App will provide the most current information on schedule changes, cancellations, room changes, and conference notifications. Make it a habit to check the Online Planner or Mobile App for the most current information.

AMUG ONLINE PLANNER
The AMUG Online Planner is the place to start and return to during the conference and after the conference. Everything will be found in the mobile app is also found on the AMUG Online Planner. Create your schedule with the Online Planner by first setting up your account with your Username (email address used to register) and Registrant ID found on your confirmation email. Access the online planner at: https://2023amug.eventscribe.net/

AMUG MOBILE APP
Use the AMUG Mobile App to:
- Build your conference schedule by favoring the presentations and events you would like to attend
- View PDFs of presentations and take notes (presentations will be made available on the morning of the scheduled presentation)
- Network with AMUG Attendees (view contact information and message within the app - contact information available if agreed by attendee)
- Vote in the App for AMUG Board of Directors 2023-2025 and the Technical Competition Member’s Choice Award
- Evaluations for presentations and conference survey
- Participate in AMUG Daily - new item for general morning sessions
- Report an Issue
- Find out more about the AMUG Organization, Bylaws and Volunteering

ACCESS DURING THE CONFERENCE
AMUG Full-Conference attendees receive access to all content within the app including all course materials, presentations, evaluations, election for the Board of Directors, and voting for Member’s Choice.
Expo Booth Staff receive access to non-course materials (AMUGexpo floor plan and information, no presentation/slide access, or conference-only activity).

ACCESS AFTER THE CONFERENCE
Both the Online Planner and Mobile App are accessible after the conference. Proceedings, Business Meeting minutes, election results and content for sessions will be made available. New information will be added and presentations will be available for a year. AMUG encourages all speakers to upload a presentation for attendees to access after the conference, should a presentation be missing please contact that speaker for a copy.

STEP 1. DOWNLOAD THE EVENTSCRIBE APP & SEARCH FOR AMUG 2023

FIRST
Search for “eventScribe” in the Apple App Store or Google Play Store OR scan the QR Code below to go directly to eventScribe.

Scan the QR Code to download the eventScribe App

SECOND
INSTALL and OPEN the app then search for 2023 AMUG Conference, SELECT the event:
“AMUG 2023”
CLICK the icon to launch your app.

STEP 2. LOGIN TO THE AMUG CONFERENCE EVENT APP
To start using the event app, select “Login” and enter your:
Username (email address you registered with for the conference)
and
Registrant ID (this is the registration identification you received when you registered)

Don’t worry, this information will be provided on the back of your badge.

STEP 3. SHARE YOUR PROFILE WITH ATTENDEES
When you access the app, you will be asked to set up your profile. In order for attendees to connect with you make sure to check YES to share your contact details with attendees.
Turn push notifications ON for the app. AMUG will send out important updates and reminders throughout the day.
# Agenda

## Pre-Conference Activity
**Saturday, March 18, 2023**

### Supplementary Conference Training and Certification
- ASTM
- ASTM Certificate Course (2-day course)
- Establishing an Additive Manufacturing Facility for Critical Part Production
  - 9:00am-5:00pm
- More info on page 16

## Pre-Conference Activity
**Sunday, March 19, 2023**

### Supplementary Conference Training and Certification
- ASTM
- ASTM Certificate Course (continuation)
- Establishing an Additive Manufacturing Facility for Critical Part Production
  - 9:00am-3:00pm
- More info on page 16

### Off-Site Tours
- DMG MORI - Technology Tour
  - More info on page 16
- Impossible Objects - Technology Tour
  - More info on page 16

## AMUG Conference Activity Begins

- Registration Open
  - 10:00am-8:00pm
- Speaker Center and App Desk Open
  - 10:00am-6:00pm

### Conference Program
- **New Member Welcome**
  - 3:00pm-4:00pm
- First-time conference attendees welcome and introduction to the AMUG Conference.

- **AMUGexpo and Networking Dinner** - All Exhibits Open
  - **EXPO OPEN**
    - 4:00pm - 10:00pm
- Join us Sunday night for the AMUGexpo Opening. Enjoy a buffet dinner and beverages as you tour the AMUGexpo. AMUGexpo (Conference Attendees and Badge-Holding Diamond, Platinum, Gold, and Exhibitor Booth Staff). AMUG does not sell AMUGexpo only passes.

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**First Time at AMUG?**

- **New Member Welcome**
- **Sunday, March 19 at 3:00pm**
- Grand Ballroom, 2nd Floor
<table>
<thead>
<tr>
<th>Date</th>
<th>Monday, March 20, 2023</th>
<th>Tuesday, March 21, 2023</th>
<th>Wednesday, March 22, 2023</th>
<th>Thursday, March 23, 2023</th>
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<tbody>
<tr>
<td>REGISTRATION OPEN</td>
<td>7:00am-8:00pm</td>
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<tr>
<td>SPEAKER CENTER AND APP DESK OPEN</td>
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<td>AMUG Expo</td>
<td>10:00am-2:30pm</td>
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<tr>
<td>AMUG and Sponsor Speaking and Training Sessions</td>
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<tr>
<td>AMUG Expo, Technical Competition and Networking Dinner</td>
<td>EXPO OPEN with Technical Competition</td>
<td>6:00pm - 10:00pm</td>
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<td>AMUG Expo, Conference Attendees and Badge Holding Diamond, Platinum, Gold, and Exhibitor Booth Staff</td>
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<td>Board Buses for Off Site Dinner Location: It's a Secret 5:15pm - 5:30pm</td>
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<td>Dinner: It's the 1993 Chicago World Fair - Steampunk Style 6:00pm-10:00pm</td>
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<td>Family Dinner &amp; Closing</td>
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<td>AMUG Conference, Family dinner, music and activities</td>
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**AMUG Technical Competition**

**Monday, March 20 at the AMUG Expo 6:00pm-10:00pm**

**Members Choice Voting continues Tuesday, March 21 Technical Competition display on the Lower Level in Salon B for Members Choice Award voting**
Collaborations Between an Animator, an Architect, and a Surgeon: The Keys to Impactful Innovation in Medicine

Rob and Nick met at AMUG 2019, having connected over a little-known 3D modeling and printing technique at the time called ‘bitmap printing’. Since this time, they have leveraged their unique workflows and toolsets to collaborate on the development of new and exciting applications for 3D bitmap printing in medicine. This collaboration has resulted in innovative designs for Pediatric Epilepsy, Cardiology, and Cleft Palate with new ideas emerging daily. In this talk they will discuss their unique collaboration, provide a history of their individual methods, dive into some of their innovations, and share their vision for future explorations. Throughout this talk they hope to inspire you to think outside the silos of your fields and search for new ideas through untraditional collaborations. Because the keys to a great innovation might be sitting right next to you.

High-Performance, Low-Cost Liquid Propulsion Enabled by AM

Max will take the AMUG stage on Thursday, March 23, to share an overview of the breakthrough additive manufacturing innovations by Launcher in its E-2 liquid rocket engine and the Orbiter space tug programs. The E-2 is a closed-cycle, high-performance rocket engine that contains multiple AM-produced copper alloy components, capable of boosting a 150 kg payload into low Earth orbit (LEO) using the firm’s Launcher Light Vehicle, scheduled for launch in 2024.

Max Haot is the Founder & CEO of Launcher, a Hawthorne, California, aerospace company founded in 2017 with the goal to develop the world’s most efficient rockets and transfer vehicles to deliver small satellites to orbit. Prior to Launcher, Max was Founder and CEO of Mevo, a live streaming camera maker that was acquired by Logitech in 2021; and Founder and CEO of Livestream, an Enterprise live video software as a service (SaaS) provider acquired by IAC/Vimeo in 2017. Max has over 20 years of experience as an entrepreneur and a lifelong passion for space.
Wednesday, March 22, 2023
2023 Innovators Award Recipient
Diana Kalisz, Vice President, Materials, 3D Systems

Diana Kalisz has been part of 3D Systems for more than 30 years – joining the company in 1989 after beginning her career in aerospace. She has worked in a variety of capacities including managing printer, software and materials programs as well as leading the company’s overall engineering organization. Under her leadership, 3D Systems has commercialized dozens of products to facilitate the maturation of rapid prototyping as well as true production applications. In her current role, Diana is focused on materials development for the company’s Figure 4 platform. She has a specific focus on Figure 4 materials directly used for many types of production applications.

Diana Kalisz has worked in additive manufacturing for over 30 years. Her entire additive manufacturing career has been with one company, 3D Systems. Following her career in aerospace, she joined 3D Systems as a project manager for the large-format SLA 500, the second stereolithography machine offered by the company.

Diana has managed, in various capacities, the engineering and development programs for the company’s hardware, software, and materials solutions. Before her current position, she served as Vice President, Engineering.

Presently, Diana is 3D Systems’ Vice President, Materials, focusing on developing production applications for the company’s Figure 4 platform. She works with customers and her 3D Systems colleagues to enable the use of Figure 4 solutions from selection (printer, materials, and software) through development to meet the needs of those deploying additive manufacturing as part of their production workflow.

Diana is a member of P.E.O., a women’s philanthropic educational organization that supports higher education for women through scholarships, grants, awards, loans, and stewardship. This small organization has raised and given hundreds of millions of dollars to support women’s education over its 153-year history.
GUY E. BOURDEAU

STUDENT SCHOLARSHIP

Brent Griffith’s foray into the world of additive manufacturing (AM) began during his undergraduate studies when he received a LaserCut RepRap Mendel 3D Printer kit as an early graduation gift. Despite the initial challenges of printing on the machine (in 2009) and the relatively rough quality of the printed objects by today’s standards, this experience ignited a deep passion within him for AM that has endured over time. In pursuit of this passion, he constructed several homemade or kit-built machines, incorporating custom-designed parts, including entire hot ends, that showcase his ingenuity and technical expertise.

After completing his mechanical engineering degree at Brigham Young University-Idaho, Brent ventured into the oil industry, where he engaged in research and development work that frequently involved additive-manufactured parts for his experiments. He subsequently acquired an Ultimaker for personal use, which he employed to produce small objects for sale online, leading to a side business that grew rapidly, with a B2B arm that catered to clients requiring prototypes and showpieces for trade shows. This B2B arm was eventually acquired by one of his clients, and Brent continued consulting through them. Brent’s consultancy services were in high demand, enabling him to help firms integrate AM into their products and thought processes.

More recently, Brent has been managing Labconco’s AM program, overseeing the company’s expanding fleet of printers and leveraging design for additive manufacturing (DFAM) principles to enhance existing products. His contributions have yielded significant cost savings for the company, streamlined assembly procedures, resolved supply chain issues, and accelerated the development of new products. Moreover, his use of AM parts has been incorporated into nearly every major product manufactured by Labconco.

In his quest to deepen his expertise in AM, Brent returned to school at Penn State University, where he is pursuing a master’s degree in Additive Manufacturing and Design, focusing his research on MEX to Metal AM and personnel protection in AM. Brent’s experiences have made him acutely aware of the potential health hazards associated with AM. He is working to advance research in this area to develop safety standards that will help safeguard AM users.

When not immersed in work or academic pursuits, Brent finds time to teach youth groups the intricacies of AM, applying 3D printing to a diverse range of activities, from designing topology-optimized, multi-material pinewood derby cars to crafting custom lightsabers. His mentorship has inspired many young people to pursue their interests in 3D printing, with many acquiring their own printers and applying them to an array of creative projects, including household items, robotics competitions, and custom Lego pieces.

BRENT GRIFFITH
Student
Penn State University

GUY E. BOURDEAU SCHOLARSHIP RECIPIENTS
2015 - Kaiyi Jiang, The University of Texas at Austin
2016 - Dr. Yaser Shanjani, Stanford University School of Medicine
2017 - Claire Belson, University of Alabama
2018 - Daniel Delgado Camacho, The University of Texas at Austin
2019 - Victoria Sears, University of Cincinnati
2020 - Kate Schneidau, University of Louisville
2021 - Sean Dobson, University of Cincinnati
Dr. Les Kalman graduated with a DDS in 1999 and then completed additional training as a GPR in 2000, both from Western University. His solo private dental practice focused on digital dentistry, implants, hospital dentistry and externally-funded patient-based clinical research. He maintained a position as an adjunct clinical professor at Western in the departments of oral surgery, periodontics, prosthodontics and emergency. He then transitioned to full-time academics in 2011. He is currently an educator and researcher as an assistant professor in Restorative Dentistry at the Schulich School of Medicine & Dentistry at Western University.

His teaching encompasses the supervision of senior dental students in radiology. He remains the course director and main lecturer for two third year didactic courses (1) Diagnosis & Treatment Planning and (2) Patient Management. He has also developed and instructed a novel digital dentistry course, which employed an experiential learning hands-on program with digital scanning, CAD/CAM and 3D printing. For graduate students, he instructs the GPR and OMFS residents on implant complications, digital dentistry and 3D printing.

His research focuses on medical devices and technologies, with an emphasis on additive manufacturing and software solutions. He remains active with externally-funded investigations, has delivered conference talks, presentations and CE courses locally, nationally and internationally and has more than 60 research publications, reviews, book chapters, editorials and case reports. He holds two patents, a trademark and has translated technologies to industry.

He served on the Board of Directors for the University of Western Ontario Faculty Association and the Canadian Association of Public Health Dentistry. He currently serves on the Standards Council of Canada; the Ambassadors Circle, Advanced Credentialing Committee and the Board of Directors for the International Congress of Oral Implantologists. He has been recognized as an Academic Associate Fellow (American Academy of Implant Dentistry), Fellow, Master and Diplomate (International Congress of Oral Implantologists), Fellow (Academy of Osseointegration), Fellow (American College of Dentist) and Fellow (International Academy of Dental-Facial Esthetics). He is a Schulich Alumni of Distinction, received the Merck Patients First award and was a Consumer Electronic Show (CES) Innovation Award Honoree for Software and Mobile Apps.

RANDY STEVENS SCHOLARSHIP RECIPIENTS
2015 - Lydia Nelson, Whitman-Hanson Regional High School
2016 - Dr. Nathan Patterson, Milwaukee School of Engineering
2017 - Dr. Hajun Gong, Georgia Southern University
2018 - Dr. Emrah Celik, PhD, University of Miami
2019 - Wenchao Zhou, University of Arkansas
2020 - Chris Kamisky, Muskegon Community College
2021 - John Sorvillo, Westwood Prep Academy at New Beginnings
2022 TECHNICAL COMPETITION WINNERS

The AMUG Technical Competition provides a forum for users of additive manufacturing technologies to display their unique applications as well as their finishing capabilities.

ADVANCED CONCEPTS
The Advanced Concepts category recognizes individuals and their companies for exemplary work with additive manufacturing technologies. Entries in this category will “push the envelope” for a particular technology or a combination of technologies. Unique applications, processes, and/or utilization are desired in this category.

ADVANCED FINISHING
The Advanced Finishing category has been created to recognize the efforts of those whom we often overlook when evaluating a model. The designers and engineers may hatch a concept, but it is often the parts finishers, model makers, painters and others that bring a prototype to life.

2023 AMUG Technical Competition at the AMUGexpo

Monday, March 20
6:00pm-10:00pm
Salon B, Lower Level

Visit the Technical Competition in Salon B during the AMUGexpo. Entries in both Advanced Concepts and Advanced Finishing will be on display. During the night, DINO judges will evaluate the entries and select a winner in each category.

2022 TECHNICAL COMPETITION WINNERS PRESENTATION
Wednesday, March 22 at 9:00am
International Ballroom, 2nd Floor

2022 ADVANCED CONCEPTS WINNER
“Metal 3-D Printing Raises the Bar for the Army’s Jointless Hull Program”
Nanci Hardwick, MELD Manufacturing

2022 ADVANCED FINISHING WINNER
“Mars Attacks”
Bill Braune, Dinsmore, Inc.

2023 Winners Announced
Wednesday, March 22 at 10:30am
International Ballroom, 2nd Floor

2022 MEMBER’S CHOICE WINNER
“Meet 3D Printed Bathroom Faucet”
Jung Kyu, Im and Daniel Gonzalez, Custom Prototypes

MEMBERS CHOICE
View all Technical Competition Entries!
Monday, March 20 - Wednesday, March 22
Open During Conference Hours
Salon B, Lower Level

Technical Competition entries will be on display in Salon B on the Lower Level until 4:00pm on Wednesday, March 22.

Voting for Members Choice will be open from Monday, March 20 at 6:00pm until Tuesday, March 21 at 9:00pm.

MEMBER’S CHOICE AWARD
Thursday, March 23 at 9:00am
International Ballroom, 2nd Floor

2022 MEMBER’S CHOICE WINNER
presents at 9:00am
2023 Member’s Choice Winner will be announced at 9:15am

2022 MEMBER’S CHOICE WINNER
“Meet 3D Printed Bathroom Faucet”
Jung Kyu, Im and Daniel Gonzalez, Custom Prototypes
TECHNICAL COMPETITION HISTORY

A LOOK BACK AT THE 90'S AND USER INNOVATION WITH STEREOLITHOGRAPHY

1994 SL Excellence Award Winner
Rear Wiper Motor Cover
Ford Motor Company

1995 SL Excellence Award Winner
Pressurized Wing Design
Northrop Grumman
Boris Fritz

1996 SL Excellence Award Winner
SL Prototype Exhaust Manifold
Ford Motor Company

1997 SL Excellence Award Winner
Surface-Mount Adapters for the Electronics Industry
Pure Fluid Magic

1998 SL Excellence Award Winner
Thin Shell Nickel Tooling
Tupperware

2001
Aircraft Repair Kit
Northrop Grumman
Chris Ferren

Aircraft Repair Kit, which is used for in-the-field aircraft modifications. The kit comprises a guide unit that attaches to the inside of the aircraft, allowing a tool to pinpoint the area to be modified or repaired.

2001
Fire-suppression service unit for the M1A1/A2 Main Battle Tank
Benet Laboratories, research arm of the U.S. Army
Tim O’Connor

2001
"Stressfreezing" scaled prototype automotive components
DaimlerChrysler
Thomas Sorovetz

2006
Flexible Wing from Cirrus Design made from DuraForm Flex.
Northern Lights Technology Center

2019
Cello
University of Wisconsin
Maddie Frank

Frank’s entry, a 3D-printed electric cello was both innovative and elegant with an artistic, abstract interpretation of the instrument’s classic look. Through laborious effort and carefully thought-out techniques, Frank translated the distressed elements, wood grains, and overall character of the original to her 3D-printed version.

The Technical Competition dates back to 1994. Initially known as the SL Excellence Award Under the 3D Systems Users Group, the competition highlighted the advances with stereolithography. As the Users Group evolved into AMUG and opened its membership to all additive manufacturing technology, the AMUG Technical Competition has become a highly sought after peer award. The Technical Competition is judged by users of additive manufacturing technology making the award the ultimate recognition For Users, By Users.
PRE-CONFERENCE ACTIVITIES

Saturday and Sunday Certification Course

This course is aimed at individuals with existing experience in AM, who wish to understand all the information needed to update an existing facility or create a new facility for the purpose of manufacturing safety critical parts using the laser powder bed fusion (LPBF/LBM) process with metal powders.

The 2-day training course is based on ISO and ASTM standards. The course will provide detailed instruction on all aspects of the operations from feedstock selection and qualification to processing and post processing (IQ, OQ, PQ) using real-life candidate parts from the attendees.

Approximately two weeks after the course, there will be an online exam for those that wish to obtain a certificate.

Topics covered include:

- **Day 1**
  - Equipment selection based on candidate parts and ROI calculations
  - Facility considerations, requirements, and controls
  - Establishing factory and site acceptance tests
  - Workflow and efficiency
  - Make or buy decisions with post processing
  - Machine calibration and certification
  - Metallurgical process qualification

- **Day 2**
  - QMS for all powder bed fusion work instructions
  - Digital twin definition
  - Part qualification considerations
  - Business plans and growth strategy
  - Personnel training requirements
  - Preventive maintenance
  - Manufacturing plan creation
  - Inspection and NDE for production
  - Considerations for NASA 6030 spec
  - In-situ monitoring

ASTM Certificate Course
Establishing an Additive Manufacturing Facility for Critical Part Production

Course Dates:
- Saturday, March 18 (9:00am – 5:00pm)
- Sunday, March 19 (9:00am – 3:00pm)

Course Location:
- Hilton Chicago, Chicago, IL
- before the 2023 AMUG Conference

Course Instructors:
- Shane Collins, Wohlers Associates powered by ASTM International
- Dr. Youping Gao, Casheon Inc., an ADDMAN Group Company

Cost: $699.00 (early bird rate ends February 17), $849.00 after
Register: [https://us.eventi.com/event/index.jsp?eventid=728821](https://us.eventi.com/event/index.jsp?eventid=728821)
Maximum class size: 40

Sunday Off-Site Tours

On Sunday, March 19, 2023, AMUG Conference attendees can tour DMG MORI or Impossible Objects.

Please note that advanced registration is required and there is a cap on the number of people that can attend. Transportation between the Hilton Chicago and the Off-Site Tours will be provided by sponsoring company.

Offsite tour information can be found on the AMUG website: [https://www.amug.com/tours/](https://www.amug.com/tours/)

**Tour DMG MORI**

DMG MORI is pleased to host AMUG MORI Chicago is once again opening its doors to AMUG members for an exclusive offsite tour of their Hoffman Estates facility. The tour will provide an in-depth look at their AM process chain, including the design and programming phase to building and finishing components.

**Tour Impossible Objects**

Impossible Objects invites you to tour its Northbrook facility. The tour will provide members with a look into applications of their CBAM composite printing process, as well as a stroll through the factory floor.
THE MANUFACTURING LOOP
presented by AMUG and SME

Sunday, March 19 - Thursday, March 23
2nd Floor across from Normandie Lounge

As Rapid Prototyping evolved into Additive Manufacturing (AM), one of the shared visions has been to put AM on the manufacturing floor to produce production components, inserts for tooling, end of arm robotics, fixtures, gauges, and more. One of the barriers to widespread adoption of this vision has been the understanding of the complexities of traditional manufacturing, such as equipment, Geometric Dimensioning and Tolerancing (GD&T), and tooling.

With the goal of bridging this knowledge gap, the AMUG organization and SME have teamed up for a second year to present a compilation of manufacturing videos called “The Manufacturing Loop.” These short videos (provided by SME) will showcase several traditional manufacturing processes, such as CNC Machining, Injection Molding, Finishing Processes, and more. The videos will also provide an overview on other areas of manufacturing, including GD&T, and automation on the manufacturing floor. These videos are a valuable resource for individuals and organizations looking to expand their knowledge of manufacturing and better adopt additive manufacturing onto their factory floor.

The Manufacturing Loop will be on display during the AMUG Conference on the second floor, across from the Normandie Lounge. There will be a poster next to each of the video monitors that outlines what is highlighted in each video, and a QR Code with a link so you can access the content at a later date. Access will also be available through the AMUG mobile app.

AMUG EXPO OPEN
Conference Attendees and Badge Holding Diamond, Platinum, Gold, and Exhibitor Booth Staff - AMUG does not sell AMUGexpo only passes
AMUGexpo | Dinner and Networking
Salon A, C, D, Lower Level

FOR USERS. BY USERS.
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<td><strong>BREAKFAST</strong> - Networking Breakfast - Conference Attendees and Badge Holding Diamond, Platinum, Gold, and Exhibitor Booth Staff</td>
<td>Location: Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor</td>
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<td>8:00am - 10:00am</td>
<td><strong>AMUG INSIGHTS AND HIGHLIGHTS</strong> &lt;br&gt;AMUG Welcome Insights with AMUG President, Mark Abshire &lt;br&gt;AMUG Conference Highlights with AMUG Director, Education &amp; Conference, Jordan Weston &lt;br&gt;2023 Scholarship Winners Highlights with AMUG Scholarship Committee Chair, Rajeev Kulkarni and Scholarship Winners &lt;br&gt;Guy E. Bourdeau Winner - Brent Griffin, Penn State University &lt;br&gt;Randy Stevens Winner - Les Kamin, Western University &lt;br&gt;Diamond Sponsor Insights and Highlights - what you need to know, with Todd Grimm, T.A. Grimm &amp; Associates</td>
<td>Location: International Ballroom, 2nd Floor</td>
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<tr>
<td>10:00am - 1:15pm</td>
<td><strong>BREAKOUT SESSIONS BEGIN</strong> &lt;br&gt;<strong>AMUG Program</strong> - Open to all AMUG Members (All Attendees with Full Conference Pass) &lt;br&gt;Track: Aerospace, Transportation, Defense &lt;br&gt;Room: International Ballroom NORTH &lt;br&gt;PANEL 1: Metal Additive Post-Processing, Surface Finishing Panel &lt;br&gt;MODERATOR: Paul Gradl, NASA Marshall Space Flight Center &lt;br&gt;PANELISTS: Ray Amiri, Extrude Hone; Tim Hall, Faradex Technology Inc.; Jan McHugh, KEM Surfacing Engineering; Jim Rigler, Tech Met Inc.; JT Stone, Microtek Finishing &lt;br&gt;PANEL 2: 3D Printed Phantoms - Working with Radio Opaque Materials &lt;br&gt;PATRICK GARNER Ricoh USA, Inc. &lt;br&gt;PANEL 3: Realizing the Value Proposition of Print to Care Manufacturing &lt;br&gt;Natalie von Windheim, The Ohio State University</td>
<td>Location: AMUGexpo area in Salon A, B, C, and D, Lower Level</td>
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<td>2:30pm - 5:30pm</td>
<td><strong>AMUGEXPO OPEN</strong> &lt;br&gt;<strong>DINNER</strong> - Networking Dinner - Conference Attendees and Badge Holding Diamond, Platinum, Gold, and Exhibitor Booth Staff</td>
<td>Location: Salon B, Lower Level (Member’s Choice Voting open in the AMUG Mobile App)</td>
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**DINING**<br>Location: Salon A, B, C, and D, Lower Level
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<td>10:00am - 10:30am</td>
<td>BREAK</td>
<td>Location: International Ballroom, 2nd Floor</td>
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<tr>
<td>10:30am - 12:00pm</td>
<td>AMUGexpo Opens at Break</td>
<td>Location: AMUGexpo area in Salon A, B, C, and D, Lower Level</td>
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<td>12:00pm - 1:15pm</td>
<td>LUNCH - Networking Lunch - Conference Attendees and Badge Holding Diamond, Platinum, Gold, and Exhibitor Booth Staff</td>
<td>Location: AMUGexpo area in Salon A, B, C, and D, Lower Level</td>
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<td><strong>BREAKOUT SESSIONS BEGIN</strong></td>
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<td><strong>SPONSOR PROGRAM - Open to all AMUG Members (All Attendees with Full Conference Pass)</strong></td>
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<td>Platinum Speaking Session</td>
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<td>Platinum Speaking Session</td>
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<td>Diamond Training Session</td>
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<td>3D SYSTEMS PRESENTATION: New Applications from Recent Advances in AM Technologies</td>
<td>3D SYSTEMS PRESENTATION: New Applications from Recent Advances in AM Technologies Brent Stucker 3D Systems</td>
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<td>EOS PRESENTATION: Exploring Viable Copper Solutions for Additively Manufactured Space Applications</td>
<td>EOS PRESENTATION: Exploring Viable Copper Solutions for Additively Manufactured Space Applications Ankshu Saharan EOS North America Aly Maloney EOS Launch</td>
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<td>3D SYSTEMS PRESENTATION: Just When You Thought It Was Safe To Go Back Into Water</td>
<td>3D SYSTEMS PRESENTATION: Just When You Thought It Was Safe To Go Back Into Water Mike Sciarina Evonik</td>
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<td>3:00pm - 4:00pm</td>
<td>Location: Continental Foyer (Lobby Level), International Foyer (2nd Floor), 3rd Floor Hallway</td>
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<td>ESSENTIAL PRESENTATION: Responding to the Additive Manufacturing Adoption Climate Panel</td>
<td>ESSENTIAL PRESENTATION: Responding to the Additive Manufacturing Adoption Climate Panel Blake Topolski, Essentium PARSU Will Chang, Essentium Garrett Harmon, Essentium Nipnu Nagabandu, Essentium Elias Terpe, Essentium</td>
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<td>MATERIALS PRESENTATION: AM Cybersecurity Challenges: How to Protect Data in Highly Connected Manufacturing Environments</td>
<td>MATERIALS PRESENTATION: AM Cybersecurity Challenges: How to Protect Data in Highly Connected Manufacturing Environments Nors Toreno, Materialsanalysister, LLC Chris Alkina, Materialsanalysister, LLC Edward Hendrick, NDL Analytical Services Mark Cottrelle, Definitive</td>
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<td>DACM MOR PRESENTATION: Blue Laser DED - Innovated Applications NIK Nieuweier DMC MORI</td>
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<td>TECNA PRESENTATION: Metal AM: An Overview from Plasma Atomized Powders to Quality L-PBF Parts</td>
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<td>FORMALS WORKSHOP: Advanced Ceramic and Metal Coatings for SLA and SLS Parts</td>
<td>FORMALS WORKSHOP: Advanced Ceramic and Metal Coatings for SLA and SLS Parts Chris Adams Peter Unger Formlabs</td>
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<td>ADDITEC PRESENTATION: Additive Manufacturing for Defense Brian Matthews ADDITEC</td>
<td>ADDITEC PRESENTATION: Additive Manufacturing for Defense Brian Matthews ADDITEC session to repeat on Tuesday</td>
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<td>4:00pm - 4:30pm</td>
<td>GE ADDITIVE WORKSHOP: EBM Build Process Analyzer: Understanding a Build Job’s Performance Dave Bartosik GE Additive</td>
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<td>5:30pm - 6:00pm</td>
<td>GE ADDITIVE WORKSHOP: EBM Build Process Analyzer: Understanding a Build Job’s Performance Dave Bartosik GE Additive</td>
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<td>TECHNICAL COMPETITION</td>
<td>TECHNICAL COMPETITION Location: Salon B, Lower Level Member’s Choice Voting open in the AMUG Mobile App</td>
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<td>6:00pm - 10:00pm</td>
<td>TECHNICAL COMPETITION Location: Salon B, Lower Level Member’s Choice Voting open in the AMUG Mobile App</td>
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</table>
| 8:00am - 9:00am | **KEYNOTE**: Collaborations Between an Animator, an Architect, and a Surgeon: The Keys to impactful Innovation in Medicine  
Nicholas Jacobsson, CU Anschutz Medical Campus | Location: International Ballroom, 2nd Floor                             |
| 9:00am - 10:00am | **AMUG ACKNOWLEDGEMENTS** Celebrating 25 Years of DINO  
2023 DINO Awards | Location: International Ballroom, 2nd Floor                             |
| 10:00am - 10:30am | **BREAK** | Location: Continental Foyer (Lobby Level), 3rd Floor Hallway   |

**BREAKOUT SESSIONS BEGIN**

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| 10:30am - 12:00pm | **AMUG Program - Open to all AMUG Members (All Attendees with Full Conference Pass)**  
Panel 3: Advanced Product Quality Planning (APQP) Process in Additive Manufacturing  
Moderator: Ted Anderson, GE  
Panelists: Cody Cochran, Abioti 3D  
Carl Demey, Mott 1-Pc Inc  
Jay Heuberger, Ford Motor Company  
Brennen White, GM  
Presentation 3A: Introduction to Additive Manufacturing and Key Safety Considerations  
Paul Bites, ASTM  
Presentation 3B: Environmental Benefits of Additive Manufacturing - A Comparative Life Cycle Assessment  
Shari Monroe, Additive Manufacturing Technology Association (AMTA) | Location: Continental B Lobby Level, Lower Level          |
| 12:00pm - 1:15pm | **NETWORKING LUNCH** Conference Attendees and Badge Holding Diamond and Platinum Booth Staff | Location: Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor        |
| 1:30pm - 3:00pm | **AMUG Program - Open to all AMUG Members (All Attendees with Full Conference Pass)**  
Panel 4: Workforce Development Panel  
Moderator: Jeannine Karr, NSF  
Panelists: Ed Todd, Wurth Additive Group  
Rajeev Kulkarni, 3D Systems  
Austin Schmidt, Additive Engineering Solutions  
Presentation 4A: Applying Machine Learning to Enable Rapid Material Property Allowables Development for Additive Manufacturing  
Annie Wang, Senvol | Location: Continental C Lobby Level, Lower Level          |
| 3:00pm - 4:00pm | **3D Printing in the Foundry - Expensive Toy or Real Engineering Tool?**  
Moderator: Thomas Becker, ACE North America, Inc  
Panelists: Dave Fournier, General Atomics Aeronautical Systems  
Ning Liu, NIST  
Nikolai Mule, Boeing | Location: Continental Foyer (Lobby Level), International Foyer (2nd Floor), 3rd Floor Hallway   |

**ALL SESSIONS CLOSE AT 4:00PM**

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<thead>
<tr>
<th>Time</th>
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</thead>
</table>
| 4:00pm - 5:00pm | **AMUG Program - Open to all AMUG Members (All Attendees with Full Conference Pass and Guests with a Paid Off-Site Event Ticket)** | - All attendees must take the AMUG bus to attend the event. Due to safety and security, AMUG does not allow for 3rd party transportation.  
- All guest must be accompanied by an AMUG Member (full conference attendee).  
- Do not line up for the bus before 5:15pm. Buses will begin boarding at 5:15pm. |
| 5:00pm - 6:00pm | **Hilton Chicago**  
**Palmer House**  
**Tuesday Night Off-Site Dinner and Event** | Important Information                                                                 |

- Board Buses for Off-Site Dinner and Networking Event - see mobile app for details  
- Buses Queue and Board at E. Balbo Drive (near hotel registration)
**TUESDAY, MARCH 21, 2023**

**SESSIONS AND ACTIVITIES**

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**BREAKOUT SESSIONS BEGIN**

**SPONSOR PROGRAM** - Open to all AMUG Members (All Attendees with Full Conference Pass)

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<td>10:30am - 11:30am</td>
<td><strong>NETWORKING LUNCH</strong> Networking Lunch - Conference Attendees and Badge Holder Diamond and Platinum Booth Staff</td>
<td>Grand Ballroom, Normanale Lounge, Boulevard, 2nd Floor</td>
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<td>12:00pm - 1:15pm</td>
<td><strong>LUNCH</strong> Lunch - Conference Attendees and Badge Holder Diamond and Platinum Booth Staff</td>
<td>Continental Foyer (Lobby Level), International Foyer (2nd Floor), 3rd Floor Hallway</td>
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<tr>
<td>2:30pm - 3:00pm</td>
<td><strong>BREAK</strong></td>
<td>Continental Foyer (Lobby Level), International Foyer (2nd Floor), 3rd Floor Hallway</td>
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<tr>
<td>3:00pm - 4:00pm</td>
<td><strong>AMUS INC</strong> Improving Sustainability for Industrial Additive Manufacturing with More Sustainable Materials</td>
<td>Continental Foyer (Lobby Level), International Foyer (2nd Floor), 3rd Floor Hallway</td>
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<tr>
<td>4:00pm - 5:00pm</td>
<td><strong>AMUG Off-Site Dinner and Networking Event</strong></td>
<td>Continental Foyer (Lobby Level), International Foyer (2nd Floor), 3rd Floor Hallway</td>
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**FOR USERS, BY USERS.**
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSIONS AND ACTIVITIES</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am - 8:00am</td>
<td>Breakfast: Conference Attendees and Badge Holding Diamond and Platinum Booth Staff</td>
<td>Location: Grand Ballroom, Normandie lounge, Boulevard, 2nd Floor</td>
</tr>
<tr>
<td>8:00am - 9:00am</td>
<td>Innovators Showcase with Diana Kalisz, 3D Systems</td>
<td>Location: International Ballroom, 2nd Floor</td>
</tr>
<tr>
<td>9:00am - 9:30am</td>
<td>AMUG Program - Open to all AMUG Members (All Attendees with Full Conference Pass)</td>
<td>Location: International Ballroom, 2nd Floor</td>
</tr>
<tr>
<td>9:30am - 10:00am</td>
<td>International Report</td>
<td>Location: International Ballroom (back of room), 2nd Floor</td>
</tr>
<tr>
<td>10:00am - 10:30am</td>
<td>Break</td>
<td>Location: International Ballroom, 2nd Floor</td>
</tr>
<tr>
<td>10:30am - 11:00am</td>
<td>2023 Technical Competition Winners Announced</td>
<td>Location: International Ballroom, 2nd Floor</td>
</tr>
<tr>
<td>11:00am - 12:00pm</td>
<td>AMUG Annual Business Meeting for all AMUG Members</td>
<td>Location: Grand Ballroom, Normandie lounge, Boulevard, 2nd Floor</td>
</tr>
<tr>
<td>12:00pm - 1:15pm</td>
<td>Networking Lunch: Conference Attendees and Badge Holding Diamond and Platinum Booth Staff</td>
<td>Location: Grand Ballroom, Normandie lounge, Boulevard, 2nd Floor</td>
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**Breakout Sessions Begin**

**Booth Area**

<table>
<thead>
<tr>
<th>Track</th>
<th>AM Metal Technologies</th>
<th>Education and Training</th>
<th>Healthcare (Medical and Dental)</th>
<th>Scanning and Metrology</th>
<th>Metal Casting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Floor 1</td>
<td>International Ballroom NORTH</td>
<td>2nd Floor</td>
<td>Continental A</td>
<td>Indoor Level</td>
<td>Continental C</td>
</tr>
<tr>
<td>Room Floor 2</td>
<td>International Ballroom SOUTH</td>
<td>2nd Floor</td>
<td>Continental B</td>
<td>Indoor Level</td>
<td>Indoor Level</td>
</tr>
<tr>
<td>Room Floor 3</td>
<td>Continental A</td>
<td>Indoor Level</td>
<td>Continental B</td>
<td>Indoor Level</td>
<td>Indoor Level</td>
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</table>

**Breakout Sessions**

- **De-Mystifying 3D Printing Throughput**
- **AP&T**
- **Silicone Molding & Polyurethane Casting**
- **Billet Milling**
- **Rampf Group, Inc.**
- **Why Dental is a Leader in Additive Manufacturing**
- **Andrew Ramsey, Nikon Metrology Inc.**
- **MAM II**
- **Wickert**
- **Steven Steinback, GSI Dental Lab**
- **Continuation of Part 1 Workshop held Tuesday, March 21 at 3:00pm**
- **Requires attendance at Part 1**

**Panel**

- **A Review of Current Thermal Process Technologies and Their Applications**
  **Moderator:** Shane Collins, ASTM
  **Panelists:** Chad Beamer, Quintus Technologies LLC; Steve Feldhauer, Abbott Fimac; Noel Brady, Paulo Michael Napoli, Bodycote

- **Panel**
  **Laser Wire DED of Ti-6-4: From Initial R&D to Finalizing MB**
  **Chad Henry, GKN Aerospace**
  **Heat Treatment 101**
  **Mark DeBruijn, Skold LLC**
  **Using 3D Printing to Enable Medical Device Manufacturing at Point of Care**
  **Brian Strzelecki, Unity Levin, Ami Willis, Veterens Health Administration**
  **So You Want to Start an Additive Manufacturing Business: A Panel Discussion**
  **Moderator:** Paul DeWitt, Foresium 3D Printing
  **Panelists:** Andrew Rumsby, Nikon Metrology Inc; Jacob Rickett, Pinnacle Industrial X-Ray Laboratory (PIXL); Roger Wermie, Volume Graphics

**Break**

**Networking**

**Panel**

- **Aerospace and Space Computed Tomography Case Studies for AM Parts**
  **Jacob Rickett, Pinnacle Industrial X-Ray Laboratory (PIXL)**
  **Presentation:**
  **Additive Manufacturing**
  **Shane Collins, AMT**
  **Pinnacle Industrial X-Ray Laboratory (PIXL)**
  **Presentation:**
  **Thom Mueller, Mueller AMS**

**Break**

**Session**

- **AMUG Program (Conference Attendees and Badge Holding Diamond and Platinum Booth Staff)**
  **Location:** Grand Ballroom, Normandie lounge, Boulevard, 2nd Floor

**AMUG Celebrates the 1893 Chicago World’s Fair - Steampunk Style Dinner and Evening Activities**

**Location:** Grand Ballroom, Normandie lounge, Boulevard, 2nd Floor
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSIONS AND ACTIVITIES</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am - 8:00am</td>
<td>Networking Breakfast - Conference Attendees and Badge Holding Diamond and Platinum Booth Staff</td>
<td>Location: Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor</td>
</tr>
<tr>
<td>8:00am - 9:00am</td>
<td>Innovators Showcase with Diana Kall, 3D Systems - Todd Green 2nd down for a Fireside chat with the recipient of the 2023 AMUG Innovators Showcase Award Diana Kall with 3D Systems</td>
<td>Location: International Ballroom, 2nd Floor</td>
</tr>
<tr>
<td>9:00am - 9:30am</td>
<td>Advanced Concepts Winner Presentation - Metal 3.0 Printing raises the Bar for the AMUG's Jointless Hula Program, Nanci Hendrick, MELD Manufacturing</td>
<td>Location: International Ballroom</td>
</tr>
<tr>
<td>9:30am - 10:00am</td>
<td>Advanced Manufacturing Update - AMUG Program Update - AMUG Treasurer, Mike Torkelson</td>
<td>Location: International Ballroom (back of room), 2nd Floor</td>
</tr>
<tr>
<td>10:00am - 10:30am</td>
<td>BREAK</td>
<td>Location: Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor</td>
</tr>
<tr>
<td>10:30am - 11:00am</td>
<td>AMUG Annual Business Meeting for all AMUG Members - AMUG Organization Update - AMUG President, Mark Abtive</td>
<td>Location: International Ballroom, 2nd Floor</td>
</tr>
<tr>
<td>11:00am - 12:00pm</td>
<td>Networking Lunch - Conference Attendees and Badge Holding Diamond and Platinum Booth Staff</td>
<td>Location: Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor</td>
</tr>
<tr>
<td>1:30pm - 2:30pm</td>
<td>CREATE ADOPTING MANUFACTURING PRESIDENT 1 - Sustainable Production of Inert Gas Atomized Metal Powders for Additive Manufacturing - Paul Davies, Elektro Bettiini Sandvik Additive Manufacturing</td>
<td>Location: Continental Foyer ( Lobby Level)</td>
</tr>
<tr>
<td>2:30pm - 3:00pm</td>
<td>BREAK</td>
<td>Location: Continental Foyer ( Lobby Level)</td>
</tr>
<tr>
<td>3:00pm - 4:00pm</td>
<td>CREATE TECHNOLOGY - Scaling up Powdered Fusing with Powder Fusers: Johnny Zhu, Fasoon Technologies, Steve Kubiak, JABIL</td>
<td>Location: Continental Foyer ( Lobby Level)</td>
</tr>
<tr>
<td>4:00pm - 5:00pm</td>
<td>TRANSITION - NO BREAK</td>
<td>Location: Continental Foyer ( Lobby Level)</td>
</tr>
<tr>
<td>5:30pm - 6:00pm</td>
<td>AMUG Celebrates the 1983 Chicago World's Fair - Steampunk Style Dinner and Evening Activities</td>
<td>Location: Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor</td>
</tr>
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</table>

**BREAKOUT SESSIONS BEGIN**

| SPONSOR PROGRAM - Open to all AMUG Members (All Attendees with Full Conference Pass) |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Track                                                                 | Platinum Speaking Session                                                                                         | Platinum Speaking Session                                                                 | Diamond Speaking Session                                                                 | Diamond Speaking Session                                                                 | Diamond Training Session                                                                 | Diamond Training Session                                                                 | Diamond Training Session                                                                 |
| Room Floor                                                                 | Marquette Room 3rd Floor                                                                                         | Joliet Room 3rd Floor                                                                 | Waldorf 3rd Floor                                                                 | Astoria 3rd Floor                                                                 | Willford A 3rd Floor                                                                 | Willford B 3rd Floor                                                                 | Willford C 3rd Floor                                                                 | PDR2 3rd Floor                                                                 |
| 3:00pm - 4:00pm | Closed Session | Closed Session | Closed Session | Closed Session | Closed Session | Closed Session | Closed Session | Closed Session | Closed Session |

**FOR USERS, BY USERS.**
<table>
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<th>Time</th>
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<td>Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor</td>
</tr>
<tr>
<td>8:00am - 9:00am</td>
<td>KEYNOTE: High-Performance, Low-Cost Liquid Propulsion Enabled by AM</td>
<td>International Ballroom, 2nd Floor</td>
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<tr>
<td>9:00am - 10:00am</td>
<td>Metal 3D Printed Bathroom Faucet, Jing Kyr IIm and Daniel Goncalves, Custom Prototypes</td>
<td>AMUG Members Choice Winner Presentation</td>
</tr>
<tr>
<td>9:30am - 10:00am</td>
<td>AMUG Preparation for AMUG 2024 and Member Feedback</td>
<td>Education &amp; Conference, Jordan Watson</td>
</tr>
<tr>
<td>10:00am - 10:30am</td>
<td>BREAK</td>
<td>Continental Foyer, Lobby Level, 3rd Floor Hallway</td>
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**BREAKOUT SESSIONS BEGIN**

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<tr>
<th>Track</th>
<th>AM Metal Technologies</th>
<th>AM Materials</th>
<th>Aerospace, Transportation, Defense</th>
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<tr>
<td>Room Floor</td>
<td>International Ballroom NORTH 2nd Floor</td>
<td>Continental A Lobby Level</td>
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<tr>
<td>PANEL 1</td>
<td>Importance of Data, Qualification, and Certification for Industrialization of Metal Additive Manufacturing</td>
<td>Scott Voigt, Advanced Additive Innovations</td>
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<tr>
<td>Speaker</td>
<td>W. Ranke, Fastec Manufacturing Technology</td>
<td>Willis, NASA MSC</td>
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<tr>
<td>10:30am - 12:00pm</td>
<td>45 MIN</td>
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<tr>
<td>12:00pm - 1:15pm</td>
<td>NETWORKING LUNCH IN DIAMOND AND PLATINUM BOOTH AREA WITH STUDENT POSTER SESSION</td>
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<tr>
<td>Room Floor</td>
<td>International Ballroom SOUTH 2nd Floor</td>
<td>Continental A Lobby Level</td>
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<tr>
<td>PANEL 2</td>
<td>Optimization of the De-Bind and Sintering Cycles of Binder Jettled 17-4 Components</td>
<td>Stephen Fieldbauer, Abbott Furniture Company</td>
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<tr>
<td>Speaker</td>
<td>Sonny Gilder, University of Tennessee</td>
<td>Dustin Gilder, Pennsylvania State University</td>
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<tr>
<td>1:30pm - 2:30pm</td>
<td>45 MIN</td>
<td>45 MIN</td>
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<tr>
<td>Room Floor</td>
<td>International Ballroom SOUTH 2nd Floor</td>
<td>Continental A Lobby Level</td>
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<tr>
<td>PANEL 3</td>
<td>Understanding the Fire and Explosion Hazards Associated with AM Equipment and Processes</td>
<td>Brian Briscoe, Andrus EDS</td>
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<tr>
<td>Speaker</td>
<td>J. Briscoe, Andrus EDS</td>
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<tr>
<td>2:30pm - 3:00pm</td>
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**AMUG DROP-IN WORKSHOPS**

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<tr>
<th>Track</th>
<th>Healthcare (Medical &amp; Dental)</th>
<th>Aerospace, Transportation, Defense</th>
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<tr>
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<td>SALON C LOWER LEVEL</td>
<td>Continental A Lobby Level</td>
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<tr>
<td>PANEL 4</td>
<td>Metal 3D Printed Startup</td>
<td>Medical &amp; Dental</td>
</tr>
<tr>
<td>Speaker</td>
<td>Douglas McReynolds, Autism Technology</td>
<td>Open Roundtable</td>
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<tr>
<td>3:00pm - 4:00pm</td>
<td>45 MIN</td>
<td>45 MIN</td>
</tr>
<tr>
<td>Room Floor</td>
<td>METALS CASTING FOUNDED IN A BOX</td>
<td>3D Printing Metal Casting</td>
</tr>
<tr>
<td>PANEL 5</td>
<td>Advanced Additive Manufacturing Workshop</td>
<td>W. Schitter, MTSI</td>
</tr>
<tr>
<td>Speaker</td>
<td>3D Printing Plastics Workshop</td>
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<tr>
<td>4:00pm - 5:00pm</td>
<td>45 MIN</td>
<td>45 MIN</td>
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<tr>
<td>Room Floor</td>
<td>NON-METALS WORKSHOP</td>
<td>3D Printing Metal Casting</td>
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<td>PANEL 6</td>
<td>Advanced Additive Manufacturing</td>
<td>W. Schitter, MTSI</td>
</tr>
<tr>
<td>Speaker</td>
<td>3D Printing Plastics Workshop</td>
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<tr>
<td>4:30pm - 5:30pm</td>
<td>45 MIN</td>
<td>45 MIN</td>
</tr>
<tr>
<td>Room Floor</td>
<td>METALS WORKSHOP</td>
<td>3D Printing Metal Casting</td>
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<tr>
<td>PANEL 7</td>
<td>Design With the End in Mind - Material AM Support Removal Workshop</td>
<td>W. Schitter, MTSI</td>
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<tr>
<td>Speaker</td>
<td>3D Printing Metal Casting Workshop</td>
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**ALL SESSIONS CLOSE AT 5:30PM**
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<tr>
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<th>LOCATION</th>
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<tbody>
<tr>
<td>7:00am</td>
<td>BREAKFAST - Networking Breakfast - Conference Attendees and Badge Holding Diamond and Platinum Booth Staff</td>
<td>Location: Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor</td>
</tr>
<tr>
<td>8:00am</td>
<td>KEYNOTE: High-Performance, Low-Cost Liquid Propulsion Enabled by AM</td>
<td>Location: International Ballroom, 2nd Floor</td>
</tr>
<tr>
<td>9:00am</td>
<td>AMUG Members Choice Winner Presentation - Metal 3D Printed Bathroom Faucet, Jung Key, Im and Daniel Concavies, Custom Prototypes</td>
<td>Location: Continental Foyer (Lobby Level), 3rd Floor Hallway</td>
</tr>
<tr>
<td>9:30am</td>
<td>AMUG Presentation for AMUG 2024 and Member Feedback - introduction of new AMUG Board of Directors and mentor feedback - AMUG Director, Education &amp; Conference, Jordan Weston</td>
<td>Location: Continental Foyer (Lobby Level), 3rd Floor Hallway</td>
</tr>
<tr>
<td>10:00am</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>10:30am</td>
<td>BREAKOUT SESSIONS BEGIN</td>
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</tr>
<tr>
<td>11:30am</td>
<td>SPONSOR PROGRAM - Open to all AMUG Members (All Attendees with Full Conference Pass)</td>
<td></td>
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<tr>
<td>12:00pm</td>
<td>NETWORKING LUNCH IN DIAMOND AND PLATINUM BOOTH AREA WITH STUDENT POSTER SESSION Networking Lunch - Conference Attendees and Badge Holding Diamond and Platinum Booth Staff</td>
<td>Location: Salon A, B, C, D, Lower Level</td>
</tr>
<tr>
<td>2:30pm</td>
<td>BREAK</td>
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<tr>
<td>4:00pm</td>
<td>TRANSITION - NO BREAK</td>
<td></td>
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<tr>
<td>4:30pm</td>
<td>AMUG Family and Closing Dinner</td>
<td>Location: Grand Ballroom, Normandie Lounge, Boulevard, 2nd Floor</td>
</tr>
<tr>
<td>5:30pm</td>
<td>ALL SESSIONS CLOSE AT 5:30PM</td>
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### Session Details

**Time:** 10:30am - 11:30am  
**Track:** Platinum Speaking Session  
**Location:** Continental Foyer (Lobby Level), 3rd Floor Hallway  
**Room:** Marquette Room 3rd Floor  
**Speaker:** Luke Rodgers  
**Title:** Jabil: A perspective on the Additive Industry  
**Presentation:** Serial Production for Additive: Lessons from a Jabil Perspective

**Time:** 1:30pm - 2:30pm  
**Track:** Platinum Speaking Session  
**Location:** Continental Foyer (Lobby Level), 3rd Floor Hallway  
**Room:** JPL 3rd Floor  
**Speaker:** Sandvik Additive Manufacturing  
**Title:** Sandvik Additive Manufacturing  
**Presentation:** Realizing Mass Customization with Software and Automation

**Time:** 3:00pm - 4:00pm  
**Track:** Platinum Speaking Session  
**Location:** Continental Foyer (Lobby Level), 3rd Floor Hallway  
**Room:** Weider 3rd Floor  
**Speaker:** ATK 3rd Floor  
**Title:** Material Systems  
**Presentation:** Designing the Perfect Setup Process for CNC Machining Additive Manufacturing Parts

**Time:** 4:30pm - 5:30pm  
**Track:** Platinum Speaking Session  
**Location:** Continental Foyer (Lobby Level), 3rd Floor Hallway  
**Room:** Weider 3rd Floor  
**Speaker:** MassMutual 3D  
**Title:** Where Engineering and Scenic Fabrication Meet  
**Presentation:** MassMutual 3D

**Time:** 5:30pm - 6:30pm  
**Track:** Platinum Speaking Session  
**Location:** Continental Foyer (Lobby Level), 3rd Floor Hallway  
**Room:** Weider 3rd Floor  
**Speaker:** REMARKABLE  
**Title:** Metal Powder for Additive Manufacturing - Making an Educated Selection  
**Presentation:** REMARKABLE  

**Time:** 6:00pm - 7:00pm  
**Track:** Platinum Speaking Session  
**Location:** Continental Foyer (Lobby Level), 3rd Floor Hallway  
**Room:** Weider 3rd Floor  
**Speaker:** REMARKABLE  
**Title:** Metal Powder for Additive Manufacturing - Making an Educated Selection  
**Presentation:** REMARKABLE
**AMUG Key**

- Registration and Help Desks
- On-site Registration & Financial Office Attendant and Expo Staff on-site Registration and Financial Issues
- Speaker and Mobile App Center

**AMUG Conference Activities**

**AMUG Conference Activities**

<table>
<thead>
<tr>
<th>AMUG Key</th>
<th>Room and Floor</th>
<th>Page</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>AMUG Registration &amp; Badge Pickup Pre-Registered Attendees, Speakers, Sponsors and Exhibitors</td>
<td>Lobby Level</td>
</tr>
<tr>
<td>2</td>
<td>On-site Registration &amp; Financial Office Attendant and Expo Staff on-site Registration and Financial Issues</td>
<td>Lobby Level</td>
</tr>
<tr>
<td>3</td>
<td>Speaker and Mobile App Center</td>
<td>Lobby Level</td>
</tr>
</tbody>
</table>

**Sponsors and Exhibitors**

- Pre-Registered Attendees, Speakers, Sponsors and Exhibitors
- Attendee and Expo Staff on-site Registration and Financial Issues
- On-site Registration & Financial Office
- Registration and Financial Issues

**Breaks**

- MONDAY AND THURSDAY AMUGexpo area, Lobby Level
- TUESDAY AND WEDNESDAY Grand Ballroom, Normandie Lounge, Lobby Level, 2nd Floor

**Diamond and Platinum Sponsor Sales Rooms**

- DIAMOND SPONSORS SALES ROOMS
- PLATINUM SPONSORS SALES ROOMS

**Conference Area**

- Off-Site Tours - Buses Lobby Level, E. Balbo Dr
- Buses for Pre-Conference Activities Lobby Level, E. Balbo Dr
- Buses for Tuesday Night Off-Site Dinner Lobby Level, E. Balbo Dr

**Transportation Area**

- Shuttle Between Hotels Shuttle runs between Hilton and Palmer House
- Shuttle runs between Hilton and Palmer House

**AMUGexo Tuesday Night Off-Site Dinner**

**AMUGexo**

- AMUGexo Tuesday Night Off-Site Dinner
- AMUGexo (Sunday - Monday)
- AMUGexo (Saturday - Sunday)

**Technical Competition**

- Technical Competition (Monday night)
- Technical Competition Extended Viewing (Tuesday - Wednesday)

**AMUG Conference Activities**

<table>
<thead>
<tr>
<th>AMUG Key</th>
<th>Room and Floor</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>AMUGexo (Sunday - Monday)</td>
<td>Salon A, C, D, Lower Level</td>
</tr>
<tr>
<td>5</td>
<td>Booth Area Open to Diamond and Platinum Sponsors (Tuesday-Thursday)</td>
<td>Salon A and D, Lower Level</td>
</tr>
<tr>
<td>6</td>
<td>Manufacturing Loop (Sunday - Thursday)</td>
<td>Hallway, 2nd Floor</td>
</tr>
<tr>
<td>7</td>
<td>Student Poster Session (Thursday)</td>
<td>Salon C, Lower Level</td>
</tr>
<tr>
<td>8</td>
<td>Technical Competition (Monday night)</td>
<td>Salon B, Lower Level</td>
</tr>
<tr>
<td>9</td>
<td>Technical Competition Extended Viewing (Tuesday - Wednesday)</td>
<td>Salon A, Lower Level</td>
</tr>
</tbody>
</table>

**AMUG Conference Sessions**

<table>
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<th>AMUG Conference Sessions</th>
<th>Room and Floor</th>
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<tbody>
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<td>Aerospace and Transportation (AMUG Track)</td>
<td>International Ballroom NORTH, 2nd Floor</td>
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</tr>
<tr>
<td>AM Materials (AMUG Track)</td>
<td>Continental Room A, Lobby Level</td>
<td>31</td>
</tr>
<tr>
<td>AM Metal Technologies (AMUG Track)</td>
<td>International Ballroom SOUTH, 2nd Floor</td>
<td>32</td>
</tr>
<tr>
<td>AM Non-Metal Technologies (AMUG Track)</td>
<td>Continental Room C, Lobby Level</td>
<td>31</td>
</tr>
<tr>
<td>AMUG Business Meeting</td>
<td>International Ballroom, 2nd Floor</td>
<td>32</td>
</tr>
<tr>
<td>AMUG Opening Address</td>
<td>International Ballroom, 2nd Floor</td>
<td>32</td>
</tr>
<tr>
<td>AMUG Scholarship Presentation</td>
<td>International Ballroom, 2nd Floor</td>
<td>32</td>
</tr>
</tbody>
</table>

**AMUGexo Scholarship Presentation**

- AMUGexo Scholarship Presentation (Monday night)

**AMUGexo Booth**

- AMUGexo Booth Area Open to Diamond and Platinum Sponsors (Tuesday-Thursday)

**AMUGexo (Sunday - Monday)**

- AMUGexo (Sunday - Monday)

**AMUGexo (Saturday - Sunday)**

- AMUGexo (Saturday - Sunday)

**AMUGexo (Tuesday Night Off-Site Dinner)**

- AMUGexo (Tuesday Night Off-Site Dinner)

**AMUGexo (Wednesday - Business Meeting)**

- AMUGexo (Wednesday - Business Meeting)

**AMUGexo (Thursday - Technical Competition)**

- AMUGexo (Thursday - Technical Competition)

**AMUGexo (Friday - Breaks)**

- AMUGexo (Friday - Breaks)

**AMUGexo (Saturday - Exhibition)**

- AMUGexo (Saturday - Exhibition)

**AMUGexo (Sunday - Monday)**

- AMUGexo (Sunday - Monday)

**AMUGexo (Tuesday Night Off-Site Dinner)**

- AMUGexo (Tuesday Night Off-Site Dinner)

**AMUGexo (Wednesday - Business Meeting)**

- AMUGexo (Wednesday - Business Meeting)

**AMUGexo (Thursday - Technical Competition)**

- AMUGexo (Thursday - Technical Competition)

**AMUGexo (Friday - Breaks)**

- AMUGexo (Friday - Breaks)

**AMUGexo (Saturday - Exhibition)**

- AMUGexo (Saturday - Exhibition)

**AMUGexo (Sunday - Monday)**

- AMUGexo (Sunday - Monday)

**AMUGexo (Tuesday Night Off-Site Dinner)**

- AMUGexo (Tuesday Night Off-Site Dinner)

**AMUGexo (Wednesday - Business Meeting)**

- AMUGexo (Wednesday - Business Meeting)

**AMUGexo (Thursday - Technical Competition)**

- AMUGexo (Thursday - Technical Competition)

**AMUGexo (Friday - Breaks)**

- AMUGexo (Friday - Breaks)

**AMUGexo (Saturday - Exhibition)**

- AMUGexo (Saturday - Exhibition)
**AMUG Key**

<table>
<thead>
<tr>
<th>AMUG Key</th>
<th>Room and Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOS</td>
<td>EOS Lake Michigan, 8th Floor</td>
</tr>
<tr>
<td>GE</td>
<td>GE Additive Lake Huron, 8th Floor</td>
</tr>
<tr>
<td>GoEngineer</td>
<td>GoEngineer Lake Ontario, 8th Floor</td>
</tr>
<tr>
<td>Stratasys</td>
<td>Stratasys Lake Erie, 8th Floor</td>
</tr>
</tbody>
</table>

**HOTEL KEY**

- ![Meeting/Conference Rooms](image)
- ![Amenities](image)
- ![Heart of House](image)
- ![Restrooms](image)
- ![Elevator](image)
AMUG HISTORY

The Additive Manufacturing Users Group’s origins date back to the late 1980s when the founding industry users group was called 3D Systems North American Stereolithography Users Group, a users group solely focused on the advancement of stereolithography (SL) use with the owners and operators of 3D Systems’ equipment. Today, AMUG educates and supports users of all additive manufacturing technologies. The primary charter of the group remains the same, but its members are much more diversified, global and focused in advancing additive manufacturing technology for rapid manufacturing and prototyping.

With AMUG’s expanded range, operators/owners of any commercial technology — stereolithography (SL), selective laser sintering (SLS), 3D printing, CLIP, DMD, DMLM, DMLS, EBM, FDM, LC, LS, MJP, PolyJet, SLM, and more — can benefit from the information exchange and professional network that AMUG offers.

OBJECTIVES

+ Encourage effective communication of information amongst all additive manufacturing equipment owners and operators.
+ Provide a forum for presentations and the ability to network with colleagues.
+ Propose solutions to problems that involve basic modification to hardware or software.
+ Provide an open atmosphere for technology exchange.

ACTIVITIES

+ Hold annual and periodic meetings for the purpose of conducting business of AMUG.
+ Establish special task or interest groups to study specific mutual areas of interest.
+ Identify problems and propose solutions or improvements and recommend uniform practices and techniques to be used by the membership.

1980s

3D SYSTEMS NORTH AMERICAN STEREOLITHOGRAPHY USERS GROUP

Founded in the late 1980s, the users group was dedicated to the users of 3D Systems’ stereolithography technology.

1990s

SELECTIVE LASER SINTERING USERS GROUP

This group, founded in the early 1990s, focused on the users of DTM Corporation’s selective laser sintering technology.

2001

3D SYSTEMS USERS GROUP (3DSUG)

In 2001, 3D Systems acquired DTM Corporation. Shortly after, the users groups for stereolithography and selective laser sintering consolidated into one association.

2010

3DS USERS GROUP INC. (DSUG)

As more and more users operated technologies from other additive manufacturing companies, the users group elected to open its doors (speakers, AMUGexpo and Sponsor Program) to companies other than 3D Systems. Membership continued to be owners/operators of stereolithography and selective laser sintering.

2011

ADDCITIVE MANUFACTURING USERS GROUP

At the 2011 conference, members voted to open the users group to owners/operators of all commercial additive manufacturing technologies.

2018

AMUG CELEBRATES 30 YEARS OF COMMUNITY

Throughout the years, AMUG has grown from a small gathering of 12 individuals with a common cause to a global community with a common cause: A community that is pushing forward a passion for technologies that inspire, redefines and empowers people everyday, and that is changing manufacturing as we know it.

Future

YOU!

AMUG MEMBER INSIGHTS

Thursday, March 23 at 9:30am

The AMUG organization and conference is built on active member participation. Join in the conversation on Thursday morning to participate in building AMUG’s future.

FOR USERS, BY USERS.
DINO AWARD
DISTINGUISHED INNOVATOR OPERATOR

The Distinguished Innovator Operator (DINO) Award recognizes individuals for both their contributions and years of service within the additive manufacturing industry and within the AMUG organization. Each year, following an open call for peer/self-nominations, the selection committee reviews all submissions as well as the list of conference registrants and selects DINOs based on factors such as:

- Contributions to the AM industry worldwide
- Contributions to AMUG (e.g., speaker, volunteer)
- Years of hands-on work with an AM technology
- Willingness to share and assist
- Skill level
- And other subjective factors

These criteria make the DINO Award very prestigious.

2022 DINO RECIPIENTS

2022 DINOS (Left to Right)
Ben Arnold, Massivit 3D; Nick Licari, Computer Aided Technology; Matthew Donovan, VulcanForms

2022 DINOS RECIPIENTS FROM 1998 - 2022

2022
Ben Arnold, Massivit 3D
Matthew Donovan, VulcanForms
Nick Licari, Computer Aided Technology

2021
Shane Collins, ASTM International
Giles Gaskele, Hexagon
Ana Neves, RAMCO
Robin Van Bragt, Eagle Design and Technology Inc.

2020
Jeff DeGrange, Impossible Objects Inc
Bob Diaz, College of Southern Nevada
Leslie Frost, GF Additive
Yousung Gao, Caeltheon
Ed Graham, ProtoCAM
Paul Hoigan, Christie Digital
Evan Kirby, MatriaLize
Ulf Lindhe, Oatton, Inc.
Dana McCallum, Carbon, Inc.
Bob Wood, ExOne

2019
Brett Charlton, BD
Jay Dinmore, Dinmore Associates
Rory Jackson, RAMP Inc.
Brett Lyons, Jabil Additive
Bob Markley, 3rd Dimension Industrial
3D Printing
Rick Moore, U.S. Army
Jeremy Pullin, Sartorius SediM
Nate Schumaker, Midwest Prototyping
Tuan Tranpham, Desktop Metal
Jordan Weston, Milwaukee School of Engineering

2018
Andy Christensen, Somaden LLC
Rey Chu, PACT, Inc.
Douglas Greenwood, Fleet Readiness Center East
Steve Hanna, 3D Systems
Rick Pressley, Renaissance Services, Inc.
Andrew Sliwa, Custom Prototypes Inc.
Fried vanzaen, Materialise
Pat Warner, Renault Sport Formula One

2017
Ted Anderson, GF Additive
Bruce Bradshaw, Arcam AB
Carl Dockard, Structured Polymers
Joerg Griesbach, The SL Pro
Jim Harrison, The Solid Experts
Kim Kilkiran, Stratasys
Peter Laciouries, Walter Reed Military Medical Center
Steve Murray, Hoosier Pattern
Shannon Van Dolen, Layered Manufacturing and Consulting
Kevin Zaras, DSM Functional Materials

2016
Andrew Allshorn, At 3D-Squared, Ltd
Ben Dolan, UC Irvine
Vito Cevnati, Milwaukee School of Engineering (MSOE)
Elizabeth Goode, Goodlink
Mike Hascher, Eagle Engineered Solutions Inc
Joe Holland, Hyphen
2023 DINO AWARDS

Join us as we induct the newest DINOs!

Tuesday, March 21 at 9:00am
International Ballroom, 2nd Floor

est. 1998

The DINO or (Distinguished Novator Operator) was established in 1998, at the tenth annual North America Stereolithography User Group or NASUG. The Board of Directors decided to pay homage to a handful of veteran Users Group members and early adopters of what was then referred to as “Rapid Prototyping”. AMUG continues the DINO award tradition to celebrate members that helped advance the Additive Manufacturing (AM) technology through innovation, contribution and selfless involvement with the AMUG organization and the AM community.

What started out as an impromptu celebration for a few Rapid Prototyping pioneers, has grown into one of the most coveted awards in the Additive Manufacturing industry and currently is bestowed upon 170+ lifetime AMUG members.

Why a DINO?
The significance of the pre-historic creature was to signify the recipient’s equipment and process innovations and their tenure in the Additive Manufacturing industry... DINO was born.

The Award
Initially, a small statue of a toy dinosaur would be used as the trophy. Over the years, the DINO has evolved. The DINO is 3D Printed in SL and then metal plated. Once plated the DINO is mounted on a slate tile. In addition to the award and to help members at the AMUG Conference find a DINO recipient, a small 3D metal printed pin was created and now part of the notability.

At the AMUG Conference
When you see a DINO member (with a DINO pin or DINO printed on their badge), come up and say hello. DINOs are always available for a conversation to discuss a technology, application, the industry, or to help you find where you need to go.
2022-2023 AMUG BOARD OF DIRECTORS

The AMUG organization has been building the user group since 1988. As an all-volunteer organization, the AMUG Board works with individuals globally to increase awareness and build a strong additive manufacturing community.

If you are interested in joining the expanding AMUG team, contact our Nominating Committee at nomcom@amug.com.
# 2022-2023 AMUG Committees

The AMUG organization relies on the support of volunteers from the AM community for its success. Active participation in committees is one way to engage, learn, support, and contribute. Below are the committees and the current members that make them work. If you are interested in participating, complete the AMUG Volunteer form on the AMUG website now or before June 1st. Committee members will be selected and approved by June 30th. The term for all committees will be one year starting July 1st.

## Conference Committees

<table>
<thead>
<tr>
<th>Conference Committee</th>
<th>Chairperson</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>DINO Selection</td>
<td>Christopher Prue, Beehive Industries</td>
<td>Jason Dickman (Advisor), ClassIQmfg.com</td>
</tr>
<tr>
<td>Event &amp; Hospitality</td>
<td>Thomas Sorovetz, T.A. Sorovetz, LLC</td>
<td>Heinrich Schütz, Siemens, and members of the AMUG Event Committee</td>
</tr>
<tr>
<td>Expo (AMUGexpo)</td>
<td>Bob Wood</td>
<td>Leslie Frost, 6K Inc.</td>
</tr>
<tr>
<td>Recognition</td>
<td>Mark Barfoot, EWI</td>
<td>Vince Anewenter (Advisor), MSOE</td>
</tr>
<tr>
<td>Registration</td>
<td>Leslie Frost, 6K Inc.</td>
<td>Vince Anewenter, MSOE, Claire Balson Barnes, Lightforce, Heather Natal, GoEngineer, Kevin Zaras, Covestro, Mark Abshire (Advisor), Jason Dickman (Advisor), ClassIQmfg.com</td>
</tr>
<tr>
<td>Scholarship</td>
<td>Rajeev Kulkarni, 3D Systems</td>
<td>Claire Balson Barnes, Lightforce, Sean Dobson, Vertex Manufacturing, Middie Frank, Fabric8Labs, Bob Markley, ADDman Engineering, Kate Schneider-Ashby, Beehive Industries, Brett Charlton (Advisor), BD, Jason Dickman (Advisor), ClassIQmfg.com</td>
</tr>
<tr>
<td>Sponsor &amp; Exhibitor</td>
<td>Shannon Van Deren, Layered Manufacturing and Consulting, Tim Bell, Meld Manufacturing</td>
<td>Mason Mote, Autodesk, and members of the AMUG Sponsor &amp; Exhibitor Committee</td>
</tr>
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## Operations Committees

<table>
<thead>
<tr>
<th>Operations Committee</th>
<th>Chairperson</th>
<th>Members</th>
</tr>
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<tbody>
<tr>
<td>Executive</td>
<td>Mark Abshire</td>
<td>Vince Anewenter, MSOE, Leslie Frost, 6K Inc, Shannon Van Deren, Layered Manufacturing and Consulting</td>
</tr>
<tr>
<td>Finance</td>
<td>Vince Anewenter, MSOE</td>
<td>Gary Rabinovitz, Reebok, Robin Van Bragt, Eagle Design &amp; Technology</td>
</tr>
<tr>
<td>Governance</td>
<td>Leslie Frost, 6K Inc.</td>
<td>Gary Rabinovitz, Reebok, Robin Van Bragt, Eagle Design &amp; Technology, Elizabeth Goode, GoodeInk</td>
</tr>
<tr>
<td>International</td>
<td>Stefan Ritt, Technical University of Luebeck</td>
<td>Dror Danai, Xjet, Andrew Graves, Covestro, Daniel Landgraf, Ulf Lindhe, Opton, Gary Rabinovitz (Advisor), Reebok</td>
</tr>
<tr>
<td>Marketing</td>
<td>Kim Brown, ASTM International</td>
<td>Todd Grimm, T.A. Grimm &amp; Associates, Danny Levy, Influs Energy, Tuan TranPham, Azul 3D, Laura Turnage, LOCTITE 3D Printing, Joseph Workman, FabriciBabs, Jason Dickman (Advisor), ClassIQmfg.com</td>
</tr>
<tr>
<td>Membership</td>
<td>Jason Dickman, ClassIQmfg.com</td>
<td>Robert Chiari, DG MORI, Glen Dreibel, Tinker AFB, Christopher Pian, Beehive Industries</td>
</tr>
<tr>
<td>New Member</td>
<td>Derek Ellis, Authentise</td>
<td>Phil Abshire, Baker Hughes (Retired), Rita Bermudez Esqueda, HP, Nick Liciari, GoEngineer, Kate Schneider-Ashby, Beehive Industries, John Sorvillo, Westwood Prep Academy, Jason Dickman (Advisor), ClassIQmfg.COM</td>
</tr>
<tr>
<td>Nominating</td>
<td>Carl Dekker, Met-L-Flo</td>
<td>Paul Bates, ASTM International, Ray Chiu, PADC, Jim Harrison, nScrypt, Larry Monahan, BD</td>
</tr>
<tr>
<td>Partnerships</td>
<td>Gary Rabinovitz, Reebok</td>
<td>Todd Grimm, T.A. Grimm &amp; Associates, Jordan Weston, MSOE, Thomas Sorovetz, T.A. Sorovetz LLC</td>
</tr>
<tr>
<td>Volunteer</td>
<td>Jamie Cone, BD</td>
<td>Kevin Ayers, 3D Metal Consulting, Renee Bourdeau, AMUG, Gary Rabinovitz, Reebok, Shannon Van Deren, Layered Manufacturing and Consulting</td>
</tr>
</tbody>
</table>
AMUG BOARD OF DIRECTORS

1988
Chairperson: Dick Aubin, Pratt & Whitney
Vice-Chairperson: Tom Kerschensteiner, AMP
Secretary: Doug Young, General Motors
Treasurer: Ed Gargulio, duPont
Site Coordinator: Jim Southard, Pratt & Whitney
Past Chairperson: Dick Aubin, Pratt & Whitney

1989
Chairperson: Dick Aubin, Pratt & Whitney
Vice-Chairperson: Tom Kerschensteiner, AMP
Secretary: Dave Flynn, Prototype Express
Treasurer: Dave Flynn, Prototype Express
Site Coordinator: Peter Sferro, Ford Motor Company

1990
Chairperson: Tom Kerschensteiner, AMP
Vice-Chairperson: Dave Flynn, Prototype Express
Secretary: Frost Proiau, Plynetics
Treasurer: Frost Proiau, Plynetics
Site Coordinator: Jim Southard, Pratt & Whitney
Past Chairperson: Dick Aubin, Pratt & Whitney

1991
Chairperson: Dave Flynn, Prototype Express
Vice-Chairperson: Frost Proiau, Plynetics
Secretary: Ed Gargulio, duPont
Treasurer: Doug Young, General Motors
Site Coordinator: Jim Southard, Pratt & Whitney

1992
Chairperson: Dave Flynn, Prototype Express
Vice-Chairperson: Frost Proiau, Plynetics
Secretary: Ed Gargulio, duPont
Treasurer: Ed Gargulio, duPont
Site Coordinator: Jim Southard, Pratt & Whitney

1993
Chairperson: Frost Proiau, Plynetics
Vice-Chairperson: Ed Gargulio, duPont
Secretary: Elaine Persall, Clemson University
Treasurer: Jeff Smith, PCC
Site Coordinator: Jim Southard, Pratt & Whitney
Past Chairperson: Dave Flynn, Prototype Express

1994
Chairperson: Ed Gargulio, duPont
Vice-Chairperson: Clint Atwood, Sandia National Laboratories
Secretary: Elaine Persall, Clemson University
Treasurer: Al DeWitt, Laserform
Site Coordinator: Tom Sorovetz, Daimler Chrysler
Past Chairperson: Frost Proiau, Plynetics

1995
Chairperson: Clint Atwood, Sandia National Laboratories
Vice-Chairperson: Elaine Persall, Clemson University
Secretary: Beth Israelnaim, Becton Dickinson
Treasurer: Al DeWitt, Laserform
Site Coordinator: Tom Sorovetz, Chrysler Corporation
3D Systems Advisor: Susan Arellano, 3D Systems, Inc.

1996
Chairperson: Elaine Persall, Clemson University
Vice-Chairperson: Al DeWitt, Laserform
Secretary: Beth Israelnaim, Becton Dickinson
Treasurer: John Thell, Prototype Express, Inc.
Site Coordinator: Tom Sorovetz, Chrysler Corporation
3D Systems Advisor: Susan Arellano, 3D Systems, Inc.
Past Chairperson: Clint Atwood, Sandia National Laboratories

1997
Chairperson: John Thell, Plynetics Express
Vice-Chairperson: Rob Connelly, Fineline Prototyping
Secretary: Bob Flint, Prototype Express
Treasurer: Joe Allison, Solid Concepts
Site Coordinator: Tom Sorovetz, Chrysler Corporation
3D Systems Advisor: Janine McQuaid, 3D Systems, Inc.
Past Chairperson: Elaine Persall, Clemson University

1998
Chairperson: Bob Connelly, Fineline Prototyping
Vice-Chairperson: Joe Allison, Solid Concepts, Inc.
Secretary: Steve Deak, Hasbro, Inc.
Treasurer: Bronson Hokuf, duPont
Site Coordinator: Tom Sorovetz, Chrysler Corporation
3D Systems Advisor: Patti Brown, 3D Systems, Inc.
Past Chairperson: John Thell, Plynetics Express

1999
Chairperson: Joe Allison, Solid Concepts, Inc.
Vice-Chairperson: Steve Deak, Hasbro, Inc.
Secretary: Guy Bourdeau, Beckman Coulter
Treasurer: Bob Olsen, Molex
Site Coordinator: Tom Sorovetz, Chrysler Corporation
3D Systems Advisor: Patti Brown, 3D Systems, Inc.
Past Chairperson: Rob Connelly, Fineline Prototyping

2000
Chairperson: Steve Deak, Hasbro, Inc.
Vice-Chairperson: Jim Harrison, 3Dimensional Engineering
Secretary: Doug Greenwood, Square D
Treasurer: Bob Olsen, Molex
Site Coordinator: Tom Sorovetz, Daimler Chrysler
3D Systems Advisor: Patti Brown, 3D Systems, Inc.
Past Chairperson: Joe Allison, Solid Concepts, Inc.

2001
Chairperson: Jim Harrison, 3Dimensional Engineering
Vice-Chairperson: Bruce Okkema, Eagle Design and Technology
Secretary: Derek Ellis, PTE Distribution
Treasurer: Guy Bourdeau, Beckman Coulter
Site Coordinator: Tom Sorovetz, Daimler Chrysler
3D Systems Advisor: Patti Brown, 3D Systems, Inc.
Past Chairperson: Steve Deak, Hasbro, Inc.

2002
Chairperson: Bruce Okkema, Eagle Design and Technology
Vice-Chairperson: Bruce LeMaster, Applied Rapid Technologies
Secretary: Derek Ellis, PTE Distribution
Treasurer: Guy Bourdeau, Beckman Coulter
Site Coordinator: Tom Sorovetz, Daimler Chrysler
3D Systems Advisor: Patti Brown, 3D Systems, Inc.
Past Chairperson: Jim Harrison, 3Dimensional Engineering

2003
Chairperson: Bruce LeMaster, Applied Rapid Technologies
Vice-Chairperson: Derek Ellis, PTE Distribution
Secretary: Carl Dekker, Met-L-Flo, Inc.
Treasurer: Guy Bourdeau, Beckman Coulter
Site Coordinator: Tom Sorovetz, Daimler Chrysler
3D Systems Advisor: Patti Brown, 3D Systems, Inc.
Past Chairperson: Bruce Okkema, Eagle Design and Technology

2004
Chairperson: Steve Deak, Huntsman Advanced Materials
Vice-Chairperson: Joe Llamas, DSM Somos
Secretary: Carl Dekker, Met-L-Flo, Inc.
Treasurer: Guy Bourdeau, 3DNASUG, Inc.
Site Coordinator: Tom Sorovetz, Daimler Chrysler
3D Systems Advisor: Patti Brown, 3D Systems, Inc.
Past Chairperson: Bruce LeMaster, Applied Rapid Technologies

2005
Chairperson: Steve Deak, GE Aviation
Vice-Chairperson: Bruce LeMaster, Applied Rapid Technologies
Secretary: Andrew Layton, Georgia Institute of Technology
Treasurer: Guy Bourdeau, Huntsman Advanced Materials
Site Coordinator: Tom Sorovetz, Daimler Chrysler
3D Systems Advisor: Patti Brown, 3D Systems, Inc.

2006
Chairperson: Bruce LeMaster, Applied Rapid Technologies
Vice-Chairperson: Bob Zubrickie, Tyco Electronics
Secretary: Andrew Layton, Georgia Institute of Technology
Treasurer: Guy Bourdeau, Huntsman Advanced Materials
Site Coordinator: Tom Sorovetz, Daimler Chrysler
3D Systems Advisor: Patti Brown, 3D Systems, Inc.
Past Chairperson: Steve Deak, GE Aviation

2007
President: Bob Zubrickie, Tyco Electronics
Vice-President: Sheku Kamara, Milwaukee School of Engineering
Secretary: Mike Barden, Christie Digital
Treasurer: Brad Palumbo, Phoenix Analysis and Design
Site Coordinator: Tom Sorovetz, Daimler Chrysler
Past Chairperson: Bruce LeMaster, Applied Rapid Technologies

2008
President: Steve Deak, Huntsman Advanced Materials
Vice-President: Bruce LeMaster, Applied Rapid Technologies
Secretary: Mark Abshire, DSM Somos
Treasurer: Guy Bourdeau, Huntsman Advanced Materials
Site Coordinator: Tom Sorovetz, Daimler Chrysler
Past Chairperson: Sheku Kamara, Milwaukee School of Engineering
2014
President: Bret Bordner, Laser Reproductions
Vice-President: Mark Barfoot, Hyphen
Vice President: Deesil Ellis, CATI
Secretary: Kim Killoran, Stratasys
Treasurer: Vince Annewenter, MSOE
Event Manager: Thomas Sorovetz, Chrysler Group, LLC
Past President: Gary Rabinovitz, Reebok Advanced Concepts
AM Advisor: Mark Abshire, Somos Materials by DSM
AM Industry Advisor: Todd Grimm, T.A. Grimm & Associates

2015
President: Mark Barfoot, Hyphen
Past President: Bret Bordner (formerly Laser Reproductions, purchased by 3D Systems)
Vice-President: Steve Deak, GE
Vice President: Dana Foster, rp+m
Secretary: Kim Killoran, Stratasys
Treasurer: Vince Annewenter, MSOE
Event Manager: Thomas Sorovetz, Fiat Chrysler Automobiles (FCA)
AM Industry Advisor: T.A. Grimm & Associates
Advisor: Gary Rabinovitz, Reebok

2016
President: Mark Barfoot, Hyphen
Past President: Bret Bordner (formerly Laser Reproductions, purchased by 3D Systems)
Chairman: Gary Rabinovitz, Reebok International
Treasurer: Vince Annewenter, MSOE
Secretary: Kim Killoran, Stratasys
Vice President: Steve Deak, GE
Vice President: Dana McCaullum, Carbon
Event Manager: Thomas Sorovetz, FCA US LLC
AM Industry Advisor: Todd Grimm, T.A. Grimm & Associates

2017
President: Steve Deak, GE Aviation
Past President: Mark Barfoot, University of Waterloo
Chairman: Gary Rabinovitz, Reebok
Treasurer: Vince Annewenter, MSOE
Secretary: Kim Killoran, Stratasys
Vice President: Paul Bates, UL
Vice President: Dana McCaullum, Carbon
Event Manager: Thomas Sorovetz, FCA US LLC
AM Industry Advisor: Todd Grimm, T.A. Grimm & Associates

2018
President: Paul Bates, UL
Treasurer: Vince Annewenter, MSOE
Secretary: Kim Killoran, Stratasys
Vice President: Carl Dekker, Met-L-Flo
Vice President: Jamie Cone, BD
Event Manager: Thomas Sorovetz, FCA US LLC
AM Industry Advisor: Todd Grimm, T.A. Grimm & Associates
Chairman: Gary Rabinovitz, Reebok
Past President: Mark Barfoot, Cimetrix Solutions

2019
President: Paul Bates, UL
Treasurer: Vince Annewenter, MSOE
Secretary: Leslie Frost, GE Additive
Vice President: Carl Dekker, Met-L-Flo
Vice President: Jamie Cone, BD
Event Manager: Thomas Sorovetz, FCA US LLC
AM Industry Advisor: Todd Grimm, T.A. Grimm & Associates
Chairman: Gary Rabinovitz, Reebok
Past President: Mark Barfoot, EWI

2020 (term: July 1, 2019 – June 30, 2021)
CONFERENCE POSTPONED, TERM EXTENDED THROUGH 2021
President: Carl Dekker, Met-L-Flo
Treasurer: Vince Annewenter, MSOE
Secretary: Leslie Frost, GE Additive
Vice President: Jamie Cone, BD
Vice President: Andrew Allshorn, AT 3-D Squared
Event Manager: Thomas Sorovetz, Stellantis
AM Industry Advisor: Todd Grimm, T.A. Grimm & Associates
Chairman: Gary Rabinovitz, Reebok
Past President: Paul Bates, UL

2021 (term: July 1, 2021 – June 30, 2022)
SEE AMUG BYLAWS FOR BOARD OF DIRECTORS STRUCTURE CHANGE
President: Paul Bates, UL
Treasurer: Vince Annewenter, MSOE
Director: Andrew Allshorn, AT 3-D Squared
Director: Jamie Cone, BD
Director: Andrew Allshorn, AT 3-D Squared
Director: Jamie Cone, BD
Director: Todd Grimm, T.A. Grimm & Associates
Chairman: Gary Rabinovitz, Reebok
Past President: Carl Dekker, Met-L-Flo

2022 (term: July 1, 2022 – June 30, 2023)
SEE AMUG BYLAWS FOR BOARD OF DIRECTORS STRUCTURE CHANGE
President: Mark Abshire
Treasurer: Shannon Van Deren, VulcanForms
Secretary: Leslie Frost, 6K Inc.
Director: Carl Dekker, Met-L-Flo
Director: Jamie Cone, BD
Director: Andrew Allshorn, AT 3-D Squared
Director: Jamie Cone, BD
Director: Todd Grimm, T.A. Grimm & Associates
Director: Gary Rabinovitz, Reebok
Director: Carl Dekker, Met-L-Flo
Immediate Past President: Carl Dekker, Met-L-Flo

Sunday, March 19 starting at 10:00am
through
Tuesday, March 21 closing at 9:00pm
(times are based on conference location)

2023 AMUG BOARD OF DIRECTORS ELECTIONS

2023-2025 Board of Directors Elections for:
• Secretary
• Director, Education & Conference
• Director, Event & Hospitality
• Director, Sponsors & Exhibitors

Voting takes place via the AMUG Mobile App. Additional details will be provided to registered AMUG members through the AMUG Online Planner and Mobile App.

Election Results will be announced at the AMUG Business Meeting
Wednesday, March 22 at 11:00am
International Ballroom, 2nd Floor
AMUG AWARDS AND RECOGNITIONS

At AMUG we consider ourselves very fortunate. There are many passionate AMUG members and industry associates that contribute to the success of pulling off a large conference managed by all volunteers. We would like to take a moment to say thank you to everyone that participated in the 2023 AMUG Education & Training Conference. We truly appreciate your continued support and dedication.

AMUG AWARDS
AMUG is an all-volunteer organization that recognizes an individual's contribution to the Users Group and the AM community.

Lifetime Achievement Award - AMUG Lifetime Achievement Award is presented to individuals with more than 20 years of service to AMUG and is at the discretion of the Executive Committee.

President's Award - President's Award is in recognition of exemplary vision, leadership, and tireless years of service for the advancement of the Additive Manufacturing Users Group and is at the President's discretion.

DINO (Distinguished Innovator Operator Award) – The DINO is presented to members with extraordinary AM expertise and actively shares that knowledge and contributes to AMUG members and the industry.

Innovators Showcase - This honor recognizes those that have had a significant impact on the additive manufacturing industry over an extended period of time.

Scholarship Award - These awards honor the memory of two long-time and avid supporters of AMUG. The Guy E. Bourdeau Scholarship is for Students, and the Randy Stevens Scholarship is for Teachers/Professors.

Technical Competition Awards – Advanced Concepts, Advanced Finishing, and Members Choice Award, members and peers awarded for their unique applications as well as their finishing capabilities of additive manufacturing methods.

PRESIDENT'S AWARD
"In recognition of exemplary vision, leadership, and tireless years of service for the advancement of the Additive Manufacturing Users Group."

Service for the advancement of the Users Group. This is the cornerstone of the President’s Award. However, this can hardly begin to describe the devotion and commitment of the person honored with the President’s Award.

Perseverance: Recipients of this award have served when called upon, they step up to ensure whatever needs to be accomplished is done and without reservation.

Passion: The President’s award recipient goes above and beyond what is expected. Not because it’s “a job”, but because the recipient truly loves the AMUG organization and industry.

Selflessness: Time and time again, the President’s award recipient has put personal gain and recognition aside to push the Users Group to a higher level.

Professionalism: The President’s Award recipient epitomizes professionalism. In all things, this Presidents’ Award recipient holds high standards in every task and always brings great ideas to the table on a consistent basis.

And maybe most important, Friendship. The Users Group is deeply rooted in friendship. Whether our businesses are competitors or not, we always find a way to make the Users Group a time to catch up with old friends while expanding our circle with new friends.

AMUG PRESIDENT'S AWARD RECIPIENTS
2000 Thomas A. Sorovetz 2014 Gary Rabinovitz
2006 Patti Brown 2016 Mark Abshire
2007 Guy E. Bourdeau 2019 Elizabeth Goode
2010 Robert Zubrickie 2021 Vince Anewenter
2013 Timothy Gomet 2021 Terry Hoppe - posthumously

LIFETIME ACHIEVEMENT AWARD
AMUG Lifetime Achievement Award is presented to individuals with more than 20 years of service to AMUG.

AMUG LIFETIME ACHIEVEMENT AWARD RECIPIENTS
2018 Thomas A. Sorovetz - 25 years of service
At AMUG we consider ourselves very fortunate. There are so many passionate AMUG members and industry associates that contribute to the success of pulling off a large conference managed by all volunteers.

We would like to take a moment to say thank you to everyone that participated in the 2023 AMUG Education & Training Conference. We truly appreciate your continued support and dedication.

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