**America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC)**
**March 31, 2021 Virtual Event: Design for Additive Manufacturing (AM)**
**Speaker Biographies**

| | **Welcome** |
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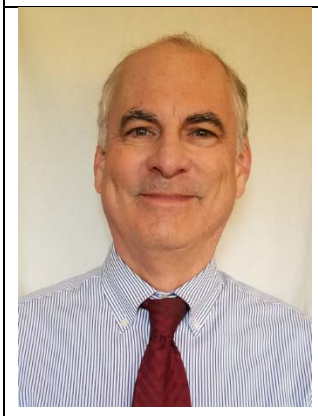
|  <br>**Jim McCabe**<br>**Senior Director, Standards Facilitation**<br>**American National Standards Institute** | Jim McCabe serves as senior director, standards facilitation, at the American National Standards Institute (ANSI), where he directs collaborative standardization activities for emerging technologies. Recent projects have included:<br><br>• spearheading the development of a standardization roadmap for unmanned aircraft systems (drones) to facilitate their safe integration into the U.S. national airspace<br>• partnering with America Makes to develop a standardization roadmap for additive manufacturing (3D printing)<br><br>A member of the ANSI staff since 1995, Mr. McCabe has been recognized by America Makes with its Distinguished Collaborator Award, and by SES, the Society of Standards Professionals, with its Honorary Life Member award. |
|  <br>**Brandon Ribic, Ph.D.**<br>**Technology Director**<br>**America Makes** | Dr. Brandon Ribic was named Technology Director of America Makes in October 2019. Driven by the National Center for Defense Manufacturing and Machining (NCDMM), America Makes is the national accelerator for AM and the first of nine Manufacturing Innovation Institutes (MIIs) established and managed by the U.S. Department of Defense (DoD) as public-private partnerships. Prior to joining NCDMM, Dr. Ribic was a joining processes and additive manufacturing materials specialist at Rolls-Royce Corporation. He led the Materials Technology Center efforts in additive manufacturing (AM) process modeling and in-situ process monitoring. His research focused on welding and AM processes for various titanium and nickel superalloy gas turbine engine components. One of his most notable achievements is successfully developing, qualifying, and productionizing (TRL 7) the first ever CMSX-4 AM repair for Rolls-Royce. |

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| | **Session 1: Development of Industry Standards and Guidance Documents** |
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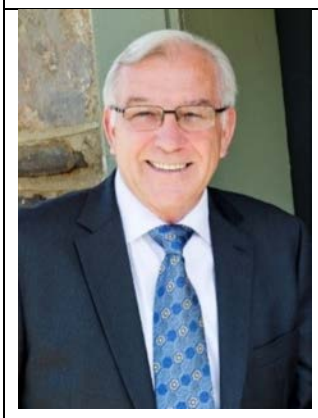
|  <br>***Moderator***<br>**Jim Williams**<br>**President, All Points Additive**<br>**AMSC chair** | Jim Williams, President All Points Additive. Before retiring Jim was Vice President of 3D Systems aerospace and defense business unit. Responsibilities included: advanced materials and process R&D, application engineering, technology maturation (TRL 1-7), transition-to-production (MRL 5-9) for scalable additive manufactured systems and components.<br><br>Prior to 3D Systems acquiring Paramount Industries, Mr. Williams spent more than 47 years serving consumer, medical, aerospace and defense industries as President and CEO of Paramount. He directed all facets of the company's diversified product design, engineering and manufacturing operations. Paramount was an early adopter of disruptive digital manufacturing technologies beginning in the mid '80s.<br><br>Mr. Williams is a member of five director boards: Manufacturing Technology Deployment Group (MTDG), formerly National Center Manufacturing and Machining (NCDMM), Applied Science & Technology Research Organization of America (ASTRO), SB Technologies, LLC, Newagen Colony HOA serving as Board President.<br><br>Since 2014 Mr. Williams has served on Delaware Valley Industrial Resource Center (DVIRC) board of directors, elected to serve as Board Chairman beginning in January 2021. DVIRC is Philadelphia's regional NIST Manufacturing Extension Partner (MEP). Jim chairs DVIRC's standing committee on smart manufacturing technologies.<br><br>Jim formerly chaired America Makes Executive Committee and Governance Board from 2012-2014. Presently chairs America Makes-American National Standards Institutes (ANSI) Additive Manufacturing Standards Collaborative (AMSC).<br><br>LinkedIn: https://www.linkedin.com/in/jimwilliams4/ |

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|  <br>**David W. Rosen, Ph.D.**<br>**Professor, George W. Woodruff School of Mechanical Engineering**<br>**Georgia Institute of Technology** | David Rosen is a Professor in the School of Mechanical Engineering at the Georgia Institute of Technology. Additionally, he is the Research Director of the Digital Manufacturing and Design Centre at the Singapore University of Technology & Design. He received his Ph.D. at the University of Massachusetts in mechanical engineering. His research interests lie at the intersection of design, manufacturing, and computing with specific focus on additive manufacturing (AM), computer-aided design, and design methodology. He has industry experience, working as a software engineer at Computervision Corp. and a Visiting Research Scientist at Ford Research Laboratories. He is a Fellow of ASME. He is the recipient of the 2013 Solid Freeform Fabrication Symposium, International Freeform and Additive Manufacturing Excellence (FAME) Award and the co-author of a leading textbook in the AM field. |
|  <br>**Paul Witherell, Ph.D.**<br>**Mechanical Engineer**<br>**National Institute of Standards and Technology** | Dr. Paul Witherell is a Mechanical Engineer in the Process Engineering Group in the Systems Integration Division at NIST. Dr.Witherell joined NIST in 2010 and has serves as a Project Leader and Associate Program Manager in the Measurement Science for Additive Manufacturing Program. His primary objectives at NIST are to develop and transfer knowledge to U.S. industry through fundamental measurement science research and resulting publications and standards. Dr. Witherell is actively developing and leading additive manufacturing standardization efforts in ASME, ASTM, and ISO standardization bodies. Dr. Witherell's primary areas of interest are Design and Data for Additive Manufacturing, Knowledge Representation in Product Design, Design Optimization, Ontology, and Semantic Relatedness. |

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|  <br>**George Rawls, P.E.**<br>**Senior Fellow Engineer**<br>**Savannah River National Laboratory** | Mr. Rawls has over 35 years of experience in the design, analysis, and testing of systems, structures, and components, including extensive experience in the application of codes and standards to pressure vessels and piping systems. He is a Fellow at the American Society of Mechanical Engineers and Chairman, ASME Special Committee on Use of Additive Manufacturing for Pressure Retaining Equipment. |
|  <br>**Darrell Wallace, Ph.D.**<br>**Deputy Director and Chief Technology Officer,**<br>**SecureAmerica Institute**<br>**Texas A&M University** | Dr. Darrell Wallace serves as Deputy Director and Chief Technology Officer for the SecureAmerica Institute at Texas A&M University. Darrell has 30 years of experience working in manufacturing including extensive and diverse industry experience. In his previous role as a Professor and Program Coordinator of the Manufacturing Engineering Program at Youngstown State University, he helped lead more than $20-million in externally funded manufacturing projects including Air Force sponsored research on additive manufacturing tooling applications. Dr. Wallace was as a founding Deputy Director for America Makes. He also helped found the ASME Y14.46 subcommittee on Product Definition for Additive Manufacturing for which he currently serves as Vice Chair. |

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|  <br>**Doug Hall**<br>**MMPDS Program Manager, Sr. Mechanical Engineer**<br>**Battelle Memorial Institute** | Mr. Hall joined Battelle Memorial Institute in 2017 as Program Manager for the Metallic Material Properties Development and Standardization (MMPDS) project. Before that he spent 30 years at Honeywell Aerospace as a stress and material allowables data analyst supporting OEM and Tier 1+ engine and Tier 1+ airframe components for mechanical component product lines for commercial and military applications. He began using MIL-HDBK-5D in 1987 and CMH-17 Rev G in 2011 to develop material allowables and design values for both metals and composites used in critical applications. Mr. Hall has a BS in Mathematics and an MS in Engineering Mechanics from Ohio State University. |
|  <br>**Curtis Davies**<br>**Senior Research Engineer**<br>**Federal Aviation Administration** | Mr. Davies has experience in a variety of aerospace and defense industries. He was in the aircraft industry for 13 years including manufacturing support, design, service engineering and certification. He supported a major airframe manufacturer and was responsible for the Materials and Process Engineering group. He held a Designated Engineering Representative Certificate in Structures holding a number of authorities including composite materials.<br><br>He has been with the FAA for 19 years and been responsible for planning, implementing and technical content of FAA research in the area of advanced materials and structures. As part of those responsibilities, he oversaw all FAA funded research in Advanced Materials. He established the FAA Advanced Materials Center of Excellence; Joint Advanced Materials and Structures (JAMS) CoE. The Center brought together diverse ranges of academia to promote advanced materials research applied to structural applications. He is the Co-Chair of Composite Materials Handbook-17 and serves on a number of its committees including Additive Manufacturing Coordination Group Co-chair. |

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| | **Session 2: End User Perspectives on Design for AM Considerations** |
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|  <br>***Moderator***<br>**Lauralyn McDaniel**<br>**Industry Events Manager**<br>**ASME**<br>**AMSC vice chair** | Lauralyn McDaniel joined ASME in February 2019 as Industry Manager and leads ASME's AM/3DP Advisors and initiatives.<br><br>McDaniel has been involved in additive manufacturing since 1999, engaging with companies and activities surrounding additive manufacturing along with micromanufacturing, nanotechnology, and many other technologies. This work has included identifying challenges and potential solutions for additive manufacturing, writing articles on innovative technologies and processes, and leading Additive Manufacturing/3D Printing groups as well as an Innovation Watch Committee. Her additive manufacturing activities include Vice Chair of the America Makes & ANSI Additive Manufacturing Standards Collaborative as well as co-chair of the Medical Workgroup, DICOM WG-17 3D Manufacturing, RSNA 3D Printing SIG, and ASTM F42 Executive Committee. She received the America Makes Ambassador Award in 2018 and was named the 3D Printing Industry's Community Advocate of the Year in 2019. She has written several articles focusing on the challenges to expanding the application of AM/3DP in medicine including scale-up of bioprinting and the workforce needed to support the technology. She also serves as editor of ASME's Medical AM/3DP Year in Review and the upcoming Aerospace AM/3DP Year in Review.<br><br>She holds a BA from Oakland University and an MBA from the University of Notre Dame. |
|  <br>**Jesse Boyer**<br>**Fellow, Additive Manufacturing**<br>**Pratt & Whitney** | Technical lead for the development, implementation, and driving the manufacturing effort to bring metal additive parts into production and seconded to the RTX AMPCC for Additive Manufacturing. Led numerous successful projects implementing advanced (Blue Light) and traditional gaging methods and sensors into manufacturing processes. Represents P&W/RTX on several committees and conferences including AESQ Standard for MSA, ASTM F42.01 Sub-Committee Chairman, and the former Chair of the Executive Committee of America Makes. Involved in the instruction and curriculum development at UCONN and University of Hartford to address the gap of manufacturing capable engineers ready for the workforce in the New England Area. |


**John Schmelzle, P.E.**
**NAWC Lakehurst Additive Manufacturing and Model Based Definition Initiative Lead, Support Equipment Dept., Naval Air Warfare Center Aircraft Division Lakehurst**
**NAVAIR**

A native of Massapequa, NY, Mr. John Schmelzle accepted a position with the Naval Air Engineering Center in September of 1986 after earning his B.E. in Mechanical Engineering from the State University of New York at Stony Brook. After working with the Tool Control Program for a year, he accepted a systems engineering position in the Support Equipment (SE) Engineering Department.

In June of 1992, Mr. Schmelzle was transferred into the newly created Product Development Department where he worked as a design engineer. During this time, he worked as the lead design engineer for several major SE projects including the KC-130 In-Flight Refueling Hose Reel Test Stand. Mr. Schmelzle also served as the lead SE design engineer on multiple aircraft platforms including the Joint Strike Fighter and F/A-18. In addition to performing his design engineer duties during the work day, Mr. Schmelzle attended a two-year night school program, earning his M.S. in Mechanical Engineering from Drexel University.

In June 2004, Mr. Schmelzle was selected as the lead design engineer in the Special Mission Branch of the SE Development & In-service Engineering Division. While in this role, Mr. Schmelzle received the prestigious Naval Air Warfare Center Aircraft Division (NAWCAD) Area Commander's Award for his work with the H-60 SE program. Two years later, Mr. Schmelzle entered into the NAVAIR Leadership Development Program (NLDP).

During his two years in the NLDP, Mr. Schmelzle attended Lean Six Sigma Black Belt Training and led several teams to increase the efficiency of business processes at the Naval Air Warfare Center. Some of his accomplishments during this time include standing up the only accredited Product Lifecycle Management system at NAVAIR, completely revising the design processes at NAWCAD Lakehurst, and bringing in the first additive manufacturing equipment to NAWCAD Lakehurst. While in the NLDP, Mr. Schmelzle also completed a detail with the Aircraft Launch and Recovery Division where he once again won the NAWCAD Area Commander's Award, this time, for his work with the catapult water break system.

Upon graduating from the NLDP, Mr. Schmelzle returned to the SE design arena where he was tasked to devise a solution to the V-22 deck heating problem. Given only two weeks to complete this solution before a ship deployment was scheduled to take place, he designed, had manufactured, and tested a new V-22 deck heat shield. This heat shield successfully mitigated the heating problem and the ship was able to deploy on time. Mr.

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| | Schmelzle was, for a third time in four years, awarded the NAWCAD Area Commander's Award. After receiving this esteemed award, Mr. Schmelzle was selected as the head of the Design & Analysis Branch of the SE Engineering Division.<br><br>Most recently, Mr. Schmelzle transitioned into a position as the AIR-4.8 Additive Manufacturing and Model Based Definition Inititiave Lead. In this role, he is working with a NAVAIR Command-wide team to further explore 3D printing and its potential to rapidly respond to urgent fleet needs.<br><br>In addition to his aforementioned NAWCAD Area Commander's Award wins, Mr. Schmelzle was selected as the People's Choice Award Winner in August 2009 and as NAVAIR's agency winner of the Federal Engineer of the Year Award in 2013. Mr. Schmelzle is a certified NAVAIR AIRSpeed Lean Six Sigma Black Belt, a graduate of the NLDP, a licensed professional engineer in the state of New Jersey, and the current President of the Joint Base at Lakehurst Chapter of the Naval Civilian Managers Association (NCMA). |
|  <br>**Steven Floyd**<br>**Space Additive Manufacturing Engineering Lead**<br>**Northrop Grumman** | Steven leads a team of space systems engineers maturing additive manufacturing materials and processes and transitioning these AM technologies into product adoptions at Northrop Grumman. Steven has 8 years of additive manufacturing design engineering experience and he has led the development of engineering manuals, processes, training courses and best practices within the air and space sectors at Northrop Grumman. The engineering manuals developed by Steven and his team are utilized across the company. Steven is also currently involved with America Makes as the Design Swim Lane Working Group liaison to the America Makes Roadmap Advisory Group and works with NCDMM and the membership to help maintain and guide the Design Swim Lane roadmap. |

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|  <br>**Douglas N. Wells**<br>**NESC Deputy Technical Fellow for Materials, Damage Tolerance Assessment Branch**<br>**NASA MSFC** | Mr. Douglas Wells is a structural materials engineer in the Materials and Processes Laboratory at the NASA Marshall Space Flight Center. Doug has twenty-five years of experience in fatigue, damage tolerance, and fracture control of flight structures. For the past seven years, he has focused on developing methodologies for the qualification and certification of additively manufactured spaceflight hardware, including the development of the first NASA standard to establish requirements for incorporating additively manufactured hardware into flight vehicles for NASA and its commercial partners. In addition to standards development for NASA, Doug is actively engaged with the broader international standards community working in additive manufacturing, including ASTM and SAE. Currently, much of his time is spent on the interpretation of certification requirements for additively manufactured hardware on a variety of NASA missions. Doug came to NASA following his Bachelor of Science degree in Aerospace Engineering at Virginia Tech and also holds a Master of Science in Mechanical Engineering from Stanford University. |
|  <br>**Ryan O'Hara, Ph.D.**<br>**Technical Director for Aerospace and Defense**<br>**nTopology** | Dr. Ryan P. O'Hara is currently serving as the Technical Director for Aerospace and Defense at nTopology. Dr. O'Hara joined nTopology in April 2019 after 20 years of military service in the United States Air Force as a Developmental Engineer. His technical focus is on the application of Mechanical Structures and Structural Dynamics to Aerospace Systems. Areas of interest include turbine engines, laminate composites, meta-materials, and additive manufacturing.<br><br>Prior to starting at nTopology, he was in academia as an Assistant Professor in the Department of Aeronautics and Astronautics at the US Air Force Institute of Technology. |

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|  <br>**Laura Gilmour**<br>**Senior Healthcare Development Manager**<br>**EOS North America** | Laura Gilmour, Global Medical Business Development Manager of EOS, collaborates with more than 20 medical device OEMs and contract manufacturers globally. She joined EOS in 2016 after working with the company as a customer during her 13 years as a biomedical research and development engineer.<br><br>Laura's experience encompasses technical lead for new technology adoption, medical device R&D, premarket regulatory review activities and customer development at companies such as Smith and Nephew Orthopedics, Medtronic, Abbott Vascular and the US Food and Drug Administration. During her time at the FDA, Laura was a founding member of the organization's Additive Manufacturing Working Group.<br><br>Laura is a recognized thought leader in the field of medical device additive manufacturing and is a contributing member of several medical additive manufacturing working groups. She holds a bachelor's degree in bioengineering from the University of Pittsburgh and a master's degree in biomedical engineering from the University of Tennessee Health Science Center. |
|  <br>**James Coburn, CDR, USPHS**<br>**Senior Advisor for Emerging Technologies**<br>**Food and Drug Administration** | CDR James Coburn is the Senior Advisor for Emerging Technologies in the U.S. FDA Chief Scientist's Office of Counterterrorism and Emerging Threats. His portfolio currently includes Additive Manufacturing, Digital Twin, and deployable manufacturing solutions. He was previously the founder and Principle Researcher for FDA's 3D printing core facility with focus on patient-based design factors for 3D printed medical devices. |

**Michael Gorelik, Ph.D.**
**Chief Scientist, Fatigue and Damage Tolerance**
**Federal Aviation Administration**

Dr. Michael Gorelik has about 30 years of experience in the areas of fatigue and damage tolerance (F&DT), probabilistic methods, advanced manufacturing and health monitoring. He applies this expertise to the development of regulations and standards, certification of aerospace products, accidents investigation, assessment of new technologies, training and education, and coordination of R&D programs and consortia. Dr. Gorelik supports evaluation of new technologies and research in the areas of advanced F&DT methods, Additive Manufacturing, Computational Materials and Health Monitoring.

Prior to joining the FAA, Dr. Gorelik was an Engineering Fellow at Honeywell Aerospace, working in the areas of life prediction and structural integrity. He has authored or co-authored over 60 peer-reviewed papers and conference presentations, and one patent. Dr. Gorelik currently serves as the Chairman of the ASME IGTI's Structures and Dynamics Committee, and is a member of the America Makes Governance Board. He also supports the ARAC Working Group on F&DT of Airplane Structures, and co-chairs the MMPDS Emerging Technologies Task Group (ETTG). Dr. Gorelik earned a Ph.D. degree in Engineering Mechanics, with minor in Materials Engineering, from the University of Illinois, and completed post-doctoral studies in Fracture Mechanics at the same university. He received MBA degree from the W.P. Carey School of Business (ASU). Dr. Gorelik is a recipient of the R&D100 award, the NASA TGIR award and two Honeywell Technology Achievement Awards.