AMUSE Conference 2021

Invited Speakers

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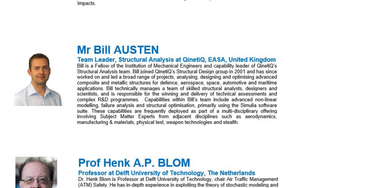

Mr David ARTERBURN

Director at Rotorcraft Systems Engineering & Simulation Center, University of Alabama in Huntsville, United States

Mr. Arterburn is a retired Master Army Aviator with over 29 years in Army Aviation. He has served as an experimental test pilot as well as served in engineering and acquisition positions supporting major helicopter development programs for the US Army.

In his current position, Mr. Arterburn has served as the principle investigator of the UAS Ground Collision Severity Tasks A4, A11 and A14 as part of the FAA UAS Center of Excellence managed by ASSURE. Mr. Arterburn is also the ASTM Subcommittee Chair for the F3389 Standard Test Method for Assessing the Safety of Small Unmanned Aircraft Impacts.

Mr Bill AUSTEN

Team Leader, Structural Analysis at QinetiQ, EASA, United Kingdom

Bill is a Fellow of the Institution of Mechanical Engineers and capability leader of QinetiQ's Structural Analysis team. Bill joined QinetiQ's Structural Design group in 2001 and has since worked on and led a broad range of projects, analysing, designing and optimising advanced composite and metallic structures for defence, aerospace, space, automotive and maritime applications. He has a degree in mechanical and a PhD in computational mechanics and scientific, and is responsible for the winning and delivery of technical assessments and complex R&D programmes. Capabilities within Bill's team include advanced non-linear modelling, failure analysis and structural optimisation, primarily using the Simulia software suite. These capabilities are frequently deployed as part of a multi-disciplinary offering involving Subject Matter Experts from multiple disciplines such as aerodynamics, manufacturing & materials, physical test, weapon technologies and stealth.

Prof Henk A.P. BLOM

Professor at Delft University of Technology, The Netherlands

Dr. Henk Blom is Professor at Delft University of Technology in the Air Traffic Management (ATM) Safety. He has in-depth experience in applying the theory of stochastic modelling and analysis to ATM, with focus on the assessment of safety risk analysis and of multi-sensor data fusion. He has been organizer and coordinator of several European research projects on the development and use of techniques from complexity science for the exploration of the safety risk space of future ATM. Dr. Blom is Fellow IEEE, and has received the Dr. Ir. Ben Sweer Award from National Aerospace Laboratory NLR.

Mr Mohd Hasrizam Bin CHE MAN

Research Associate at Air Traffic Management Research Institute (ATMRI), NTU, Singapore

Mohd Hasrizam Che Man is a Research Associate at Nanyang Technological University, Singapore. He completed his master's degree in mechanical engineering from Universiti Kebangsaan Malaysia in collaboration with Rolls-Royce. His master's research project at Institute for development of additive tool (IDAT) Newcastle to evaluate drone ingestion's damage severity into a commercial aircraft engine in aerodrome airspace. His main research interests are impact mechanics and drone risk assessment to integrate UTM into the National Airspace System.

Dr Fabien COUSSA

Special Scientific Advisor at The French Aerospace Lab ONERA, France

Ph. D. in Mechanical Engineering in 2017 on the dynamic behaviour of composite materials. Graduated engineer from ISAE-SUPAERO in 2014. Since 2017, I am in charge of the experimental analysis of the mechanical properties of composite material behaviour at the ply scale and subjected to wide ranges of loading rates. In 2019, I started a research activity on the evaluation of the lethal potential associated with the fall of a UAS on a person on the ground. As part of this new activity, I am in charge of piloting a four-year project funded by the French civil aviation authority, to analyze the energy potential transmitted by a UAS during an impact and the resulting injury consequences from a biomechanical standpoint.

Dr Azzedine DADOUCHE

Senior Research Officer at National Research Council, Canada

Dr. Azzedine Dadouche is a Senior Research Officer at the National Research Council Canada (NRC). His main research interests are topics related to rotor-support systems for aerospace applications and air-to-air collisions damage assessment. The latter represents his core focus at NRC's Aerospace Research Centre where he studies damage severity level associated with the collisions situations such as bird and drone impact on all categories of aircrafts, rotorcrafts and engines.

Mr Mike GIRBERT

Systems Engineer (Lead) at MITRE, United States

Mike Girbert leads a distinguished and dedicated group of MITRE technical analysts focused on integrated operations risk analysis for the Federal Aviation Administration. Department of Transportation, and Department of Defense. His group's current research and analysis work includes estimating the likelihood of air and ground collision risk between manned and unmanned aircraft, developing prototype capabilities to standardize, automate, and evaluate risk associated with the integration of unmanned aircraft or spacecraft into a volume of airspace, and enabling operational and safety-related decision-making based on sound technical principles and data. Mike is a retired Air Force officer with 25 years of global aviation experience. He has enthusiastically served the public interest with his distinguished MITRE colleagues since 2007.

Mr Billy KLAUSER

Deputy Director at ASSURE, FAA's Center of Excellence for UAS Research, United States

In November 2018, Billy joined as the Deputy Director of ASSURE (The Alliance for System Safety of UAS through Research Excellence) which is the FAA's Center of Excellence for UAS Research. He is responsible for business development and assisting with the ongoing success of the COE for the FAA.

Prior to joining ASSURE, he recently recently served as the Chief of Economic Development for the Mississippi Development Authority's Energy Division where he led the state's efforts in economic development agency. He oversaw the recruitment and retention of all companies looking to locate or expand in Mississippi. He was also responsible for the international trade, business intelligence and workforce divisions. Billy Klauser has served as Director of the Financial Resources Division of the Mississippi Development Authority. He was responsible for providing guidance to companies on available tax incentives and administers several incentive programs for businesses locating or expanding in Mississippi.

Before joining MDA in 2009, he previously worked at the Mississippi Department of Revenue for seventeen years, where he served as the director of miscellaneous tax and, most recently, as the director of income tax. Billy has a bachelor's degree in banking and finance from Mississippi State University and an Accounting Certificate from Mississippi College.

Prof Yulong LI

Dean at School of Civil Aviation, Northwestern Polytechnical University, China

Yulong Li is the Dean of Civil Aviation School and a Chair Professor in Department of Aeronautical Structure Engineering in Northwestern Polytechnical University (NPU). He received his Ph.D. degree in Solid Mechanics from NPU in 1992 and became Professor in 1995. From 1996 to 2000 he worked as a post-doctor and subsequently a visiting scholar in University of California San Diego and Johns Hopkins University (JHU). His research interests include Computational Mechanics, Fracture Mechanics, and Damage Tolerance, especially relationship for materials, experimental techniques for high strain rate and fracture dynamics as well as, numerical simulation of materials and structures under impact. He has authored more than 400 papers, as well as 28 patents and 4 book chapters. He is serving as the Committee Member for the Chinese Society of Aeronautics and Chinese Society of Mechanics. He is Editor Board Member for several journals including J. Dynamic Behavior of Materials, Int. J. Impact Engineering, Acta Mechanica Sinica and so on.

Prof Kin Huat LOW

Programme Director at Air Traffic Management Research Institute (ATMRI), NTU, Singapore

Kin Huat Low is a Professor of Robotics at the School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore. He is also the Programme Director of the Air Traffic Management Research Institute. Kin Huat received his M.Sc. and Ph.D. from the University of Waterloo, Canada.

Kin Huat has authored or co-authored over 300 journal and conference papers in the areas of unmanned aerial vehicles, flapping-wing micro aerial vehicles, robotics, air traffic management, UAVs, impacts, power transmission systems, structural dynamics, and vibrations. He is an Associate Editor for several journals, including the Journal of Mechanism and Machine Theory, the AIAA Journal of Mechatronics and Robotics, and the Journal of Bionic Engineering. He is also the Guest Editor of special issues on urban air mobility, bioinspired systems, and robotics rehabilitation.

Kin Huat has been a member of ICAO Remotely Piloted Aircraft Systems Panel since 2014. He was a keynote speaker at every annual ICAO DRONE ENABLE Symposium and has given talks around the world about his research and the trends and development in Unmanned Aircraft System Traffic Management (UTM). Kin Huat also spearheaded the inaugural International Conference on Air Mobility with Unmanned Systems and Engineering (AMUSE) in July 2020.

Mr Antonio MARCHETTO

UAS Technologies Expert / Regulations Officer Initial Airworthiness at European Union Aviation Safety Agency (EASA), Germany

As EASA UAS Technologies Expert and Regulation Officer for Initial Airworthiness, Antonio Marchetto has been involved since October 2015 in the definition of the new European UAS Regulatory Framework. Before joining EASA, Antonio worked for 15 years in Aeronautics as a PCM and Expert. Before the Agency, he worked for several years in the industry, in the military unmanned aircraft domain. He holds a degree in Electronics Engineering from the Turin Polytechnic and a Master of Science in Technology Management.

Dr Gerardo OLIVARES

Director & Senior Research Scientist at National Institute for Aviation Research, United States

Dr. Olivares is the Director for Crashworthiness and the AVET Laboratories at the National Institute for Aviation Research. His research focuses on the application of Finite Element, Multi-Digital Engineering, Structural Crashworthiness and Injury Biomechanics in the aerospace and automotive industries. For the last fifteen years Dr. Olivares has been the principal investigator on multiple FAA, Industry and DoD sponsored research projects in the field of virtual engineering, aerospace crashworthiness and certification by analysis methods.

Mr Maran PARAMANATHAN

Director, Unmanned Systems Policy and Regulations (UPR) at Civil Aviation Authority of Singapore (CAAS), Singapore

Maran Paramanathan is the Director of Unmanned Systems Policy and Regulations (UPR) within the Civil Aviation Authority of Singapore (CAAS). He possesses a combined 28 years' experience in air traffic control and airspace management. He joined CAAS in 2017, serving as the Deputy Director of Air Traffic Control (ATC) Operations. Prior to that, he has served with the Republic of Singapore Air Force for 26 years. Trained as an air traffic controller, he had specialized in airspace management.

Maran leads a division that is responsible for certification standards and safety oversight, airspace integration and policy for unmanned aircraft operations in Singapore. He is also overseeing a progressive regulatory regime for unmanned aircraft operations in Singapore.

He is also leading a team to develop a UTM concept of operations and roadmap for Singapore. His team is collaborating with other civil aviation authorities, research institutes and industry partners to advance a UTM CONOPs that is suited for Singapore's dense urban environment.

Mr Carlos RUELLA

Engineer, RPAS Task Force Engineering at Transport Canada, Canada

Carlos Ruella was born in Caracas, Venezuela. Carlos obtained an undergrad diploma in Electronic engineering with a minor in robotics from the Simon Bolivar University in Venezuela. He then moved to Canada where he obtained a Master's degree in Aerospace & Mechanical engineering at Polytechnique in Montreal. His research was focused on adaptive robotics. Carlos started his professional career at CMC Electronics; he performed different roles from simulations developer to project manager during the 6 years he was at work at this avionics company. He joined Transport Canada in 2019 and he supports the Engineering Team as he leads the RPAS R&D program.

Ms Sabrina SAUNDERS-HODGE

PMP, Director at Federal Aviation Administration, FAA's UAS Integration, United States

Sabrina Saunders-Hodge is the Director of the Research, Engineering & Analysis Division within the Federal Aviation Administration's Unmanned Aircraft Systems (UAS) Integration Office. Within this role, Ms. Saunders-Hodge is responsible for coordinating internal and external to the FAA to lead the development of the FAA's strategic research planning for both UAS and Advanced Air Mobility (AAM) to inform related rulemaking and operational capabilities for safe and efficient integration into the National Airspace System.

Prior to joining the UAS Integration Office in 2016, Ms. Saunders-Hodge was the manager of the FAA's NextGen New Entrants Division with program management responsibility for executing UAS research as well as standing up the FAA's first UAS Center of Excellence.

Over the past thirty years, Ms. Saunders-Hodge has worked in the field of satellite communications, contributed to the development of ICAO's global plan for transitioning to future communications, navigation, surveillance and air traffic management (CNS/ATM) systems for civil aviation, co-managed the oversight of FAA/European cooperative research and development projects, and worked on the development of international concepts for technology enhancements within the NAS.

Ms. Saunders-Hodge holds a B.S. and M.S. in Computer Science from The University of Maryland and Johns Hopkins University respectively. Additionally, Ms. Saunders-Hodge is a certified Project Management Professional and a graduate of the Federal Executive Institute.

Prof Hyunchul SHIM

Director at KAIST Robotics Institute, Civil RPAS Research Center and Intelligent UAV Laboratory, South Korea

Dr. Dawid Hyunchul Shim received the B.S. and M.S. degrees in mechanical design and production engineering from Seoul National University, Seoul, Korea, in 1991 and 1993, respectively, and the Ph.D. degree in mechanical engineering from the University of California Berkeley, Berkeley, USA in 2000. He joined KAIST in 2007 and is now a Tenured Professor in School of Electrical Engineering and Director of KAIST Robotics Institute. He is Director of KAIST Civil RPAS Research Center and KAIST Intelligent UAV Laboratory, Republic of Korea Korean government. He is also serving as a government-appointed advisor for Remotely Piloted Aircraft System Panel(RPAS/P) in International Civil Aviation Organization (ICAO) since 2015. His interests include dynamics and control, unmanned vehicle systems and field robotics.

Prof Ryan WALLACE

Assistant Professor of Aeronautical Science at Embry-Riddle Aeronautical University, United States

Dr. Ryan Wallace is an Assistant Professor of Aeronautical Science at Embry-Riddle Aeronautical University, where he is the Director of Graduate Studies in Air Traffic Operations, and a D.S. in Aeronautics. His research focuses on UAS safety, security, human factors, and public policy. He is actively involved in multiple funded research projects, valued at nearly $2.5 million. Dr. Wallace Co-Chairs the joint activity RTCA SC-228/EUROCAE WG-115 Counter-UAS initiative. He serves on the FAA's Unmanned Aircraft Safety Team (UAST). Dr. Wallace is a Subject Matter Expert for the FAA's Drone Advisory Committee (DAC) working group to improve UAS operational safety. He is currently the Editor of the Collegiate Aviation Review International, the official journal of the University Aviation Association.

The research work presented is co-authored by Dothang Truong, Ph.D., Richard Stansbury, Ph.D. and Johanna Engström, Ph.D. from Embry-Riddle Aeronautical University.

Dr C.H. John WANG

Assistant Programme Director at Air Traffic Management Research Institute (ATMRI), NTU, Singapore

Dr. John Wang is the Assistant Programme Director for the UAS Programme at the Air Traffic Management Research Institute in Nanyang Technological University. He has been involved in research topics including near-ground wake-vortex dissipation at airports, UAS collision risk in aerodrome, and UAS wake-vortex encounter and stability modelling to support separation requirements.