Flight and Ground Vehicle Simulation Update 2017

Monday, January 23, 2017 - Friday, January 27, 2017

Instructors Bios

Frank M. Cardullo is the technical coordinator for all Watson School simulation short courses. He is also Professor Emeritus of Mechanical Engineering in the Thomas J. Watson School of Engineering and Applied Science at the State University of New York at Binghamton. Professor Cardullo is very active in simulation research and serves as a consultant for many aerospace companies and U.S. government agencies. Cardullo is the author of over 60 technical papers in both flight and ground vehicle simulation and a number of reports and has been awarded a patent for the "Advanced G-Seat". He is a recipient of the De Florez Award for Flight Simulation and Training. Prior to joining the faculty, Cardullo spent 14 years as an engineer in the simulation industry, most of it with Link. He is an associate fellow of the AIAA, a former chairman of its Flight Simulation Technical Committee and currently a member of its Life Sciences Technical Committee. He is also a member of the IMAGE Society, the Aerospace Medical Association and the American Association of Engineering Educators.

Olen Atkins is Wegmann USA's Director of Training and Simulation in Sanford, FL. He was the Production Manager for the Army's SE Core Database-Virtual Environment Development (DVED) Program (Orlando, FL), the Geo-Spatial Synthetic Environment Manager at Link Simulation and Training (Arlington, TX), and the Program Engineering Manager at Diamond Visionics (Binghamton, NY), as well as the Visual Simulation System Manager for MarineSafety (Queens, NY). During his past 18 years, he has been involved in numerous technical areas of visual simulation including: ship handling, fixed and rotary wing aircraft, ground troops and vehicles, UAVs and medical trainers, implementing image generators, geo-spatial databases, and sensor simulations. Through these experiences he has acquired a breadth and depth of the visual simulation discipline that covers topics ranging from systems engineering to project management to individual tool user.

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James L. Davis is currently Director of Business Development for Sagetech Corp. His career began after graduating with a PhD in EE from MIT and joining Rediffusion Simulation, at one time the leading manufacturer of commercial flight simulators. After 10 years shared between the Texas and U.K. offices, he moved to Atlanta as a Vice President of IVEX Corp., a computer image generator manufacturer. Later, he spent five years as an entrepreneur and independent consultant to the simulation and location-based entertainment industries, which led to a position with Lockheed Martin (Manassas, VA) in support of the Navy's H-60 trainer upgrade program. After a stint as VP Engineering/CTO for avionics company FreeFlight Systems, followed by an Adjunct Professorship for navigation & surveillance avionics, he moved to his current employer in White Salmon, WA that principally serves the UAS and GA markets.

Valerie Gawron is the Human Systems Integrator at MITRE. She has designed and evaluated training systems for over thirty years. Specifically, she helped design the training curriculum and materials for the Navy's VTXTS training aircraft. She also co-authored a book chapter describing training systems. She led the writing of an overview of threats and their countermeasures for training deployed Air Force personnel. She has also evaluated training systems for all the airport inspection systems currently used in the United States. She led the specification of an Immersive Understanding Virtual Realty system to train commanders in cultural awareness. She provided short courses in situational awareness measurement at the Air Force Flight Test Center, Naval Test Pilot School, the Naval Air Warfare Center, various conferences, and sites in Europe and U.S. She has over 400 publications including the second edition of her book, "Human Performance, Workload, and Situational Awareness Measures Handbook" published in March 2008. Dr. Gawron is a Fellow in the Human Factors and Ergonomics Society, a Fellow in the International Ergonomics Association, and an Associate Fellow in the American Institute of Aeronautics and Astronautics. She has been a member of the Air Force Scientific Advisory Board and the Army Science Board and has served on three National Research Council Committees. Dr Gawron received her BA degree from State University College at Buffalo, her MA from the State University College at Geneseo, and her Ph.D. in Engineering Psychology from the University of Illinois. In addition, Dr. Gawron earned a MS in Industrial Engineering and an MBA, both from SUNY, Buffalo.

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Instructors Bios

R. Thomas Galloway began his career in aeronautical engineering at Patuxent River, MD, as a flight test engineer in 1969. In the early 1970's, he became involved with testing the flight fidelity of military pilot training simulators and subsequently took on a leadership role in establishing improved validation methods for Navy flight simulators through the application of aircraft flight test technology. He founded and led the Aerodynamics Group at NAVAIR Orlando Training Systems Division which investigates flight simulation requirements and effective validation methods for both rotary wing and fixed wing pilot training simulators. Mr. Galloway has consulted with the FAA and other military services on flight fidelity validation issues, and continues to provide technical consulting services in this area of expertise. Mr. Galloway holds a BSAE from Georgia Institute of Technology, an MSAE from Princeton University, and is an engineering graduate of the U.S. Naval Test Pilot School (Class '57).

David R. Gingras is the Vice President of Engineering with Bihrle Applied Research Inc. (BAR) in Hampton, VA, with over 20 years of experience in the aeronautics industry. His primary responsibilities are commercial simulation products development and simulation flight model development and validation for military and civilian flight vehicles. Mr. Gingras has expertise in areas of wind-tunnel testing; flight-test data analysis, parameter identification, and flight model development. He has played a key role in developing a number of engineering and training flight models for aircraft including, the AV-8BII+, F/A-18, and F-16 in addition to several civilian configurations and gaming applications. Mr. Gingras earned a Bachelor of Science in Aerospace Engineering from West Virginia University and a Master of Science in Aeronautics from The George Washington University's Joint Institute for the Advancement of Flight Sciences (JIAFS), NASA Langley Research Center, Hampton, VA. He is a Senior Member of the AIAA and part of the Modeling and Simulation Technical Committee. Mr Gingras was appointed to Fellow in the Royal Aeronautical Society (RAeS) and is an active participant with the International Committee for Aviation Training in Extended Envelopes (ICATEE) founded by the RAeS.

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Instructors Bios

Roy W. Latham is the founder and president of Computer Graphics Systems Development Corporation, (CGSD Corp.), a Mountain View, CA based systems integration firm specializing in simulation technology. He served as editor and publisher of the professional newsletter Real Time Graphics for 12 years. Previously, he managed graphics and imaging system projects at Link Flight Simulation's Advanced Products Operation, Kaiser Aerospace, and Sun Microsystems.

Jeffery Schroeder, PhD, has 25 years of experience and has over 50 publications on ground and in-flight simulation, flight dynamics, control systems, cockpit displays, human factors, and air traffic management. In the FAA, he has served on several working groups addressing upset prevention and recovery.

While at NASA Ames Research Center for over 20 years, Dr. Schroeder conducted a variety of piloted flight simulation studies with special emphasis on motion fidelity in the world's largest flight simulator. He also developed techniques for improving pilot-vehicle performance in the design of cockpit display dynamics.

Dr. Schroeder served in the Senior Executive Service as the Aviation Systems Division Chief at NASA Ames where he was responsible for the majority of NASA's research in air traffic management and the piloted simulators at Ames.

He has taught graduate and undergraduate courses in aircraft and spacecraft dynamics & control at Stanford and San Jose State University.

Dr. Schroeder is a fellow of the Royal Aeronautical Society as well as a member of the flight simulation group. He is also an associate fellow of the American Institute of Aeronautics and Astronautics as well as a member of the modeling and simulation technical committee and the publications committee. His awards include the NASA Outstanding Leadership Medal and the U.S. Army Director's Award for Interagency Cooperation. He received his Ph.D. in Aeronautics and Astronautics from Stanford University and his B.S. and M.S. in Aeronautics and Astronautics from Purdue University.

Instructors Bios

James R. Takats is Senior Vice President of Global Simulation & Training Strategy at Textron, Inc., headquartered in Goose Creek, South Carolina. Previously he was co-founder and President of OPINICUS Corporation, a Fixed-wing and Rotary-wing FSTD Manufacturer which was acquired by TRU Simulation + Training. For 30 years, Mr. Takats has been involved in the design and implementation of innovative hardware and software for dynamic, closed loop control systems for Flight Simulators, where he has worked as an engineer in the areas of Control Loading, Motion Cueing, Fly-By-Wire Flight Controls, Autoflight Guidance Systems, and Advanced Avionics Systems.

During the past several years, Jim has been involved in various Simulation and Training associations and Working Groups and is a member of the ICFQ (International Committee for FSTD Qualification).

Mr. Takats holds a Bachelor of Engineering degree in Electrical Engineering (B.E.E.E.) from McGill University in Montreal, Canada. Prior to founding OPINICUS in 1988, Mr. Takats worked on engineering staffs at CAE, Reflectone, and Singer Link.

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Instructors Bios

Andreas Tolk is Technology Integrator for the Modeling, Simulation, Experimentation, and Analytics (MSEA) division of The MITRE Corporation. He is an adjunct Full Professor at Old Dominion University. He received his Ph.D. in Computer Science (1995) and has a M.S. in Computer Science (1988) from the University of the Federal Armed Forces, Germany.

Before joining MITRE in 2015, he has been Professor in the Department of Engineering Management and Systems Engineering at the Old Dominion University holding a joint appointment with the Modeling, Simulation, and Visualization Engineering Department, and Senior Research Scientist at the Virginia Modeling Analysis & Simulation Center (VMASC). In Germany, he served as an Army Officer and held middle management positions in defense related industry.

He received the Frank Batten Excellence in Research Award from Old Dominion University in 2008, the Technical Merit Award of the Simulation Interoperability Standards Organization (SISO) in 2010, the Outstanding Professional Contribution award of the Society for Modeling and Simulation (SCS) in 2012, and the Distinguished Professional Achievement award from SCS in 2014. He has more than 250 publications in book chapters, journals, and proceedings. He edited six books, among them the "Engineering Principles of Combat Modeling and Distributed Simulation" (Hoboken, NJ: Wiley, 2012)

Dr. Tolk is a Fellow of the Society for Modeling and Simulation International (SCS). He is a senior member of the Association for Computing Machinery (ACM) Special Interest Group Simulation (SIGSIM) and the Institute of Electrical and Electronics Engineers (IEEE). He is also a member of the Board of Directors for ACM SIGSIM and SCS.