Robotics, Artificial Intelligence, and Autonomy

Visioning Multi-Domain Warfare In 2030-2050

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Georgia Tech Research Institute,

Atlanta, GA

INVITED SPEAKERS

Lieutenant General Kevin W. Mangum

Deputy Commanding General and Chief of Staff, TRADOC

Lieutenant General (LTG) Kevin W. Mangum graduated from the United States Military Academy at West Point, NY in May 1982 where he was commissioned as a Second Lieutenant of Armor. Highlights of LTG Mangum's career include tours with 8th Army, the 101st Airborne Division (Air Assault), 2nd Infantry Division and 10th Mountain Division and two Joint tours. He has commanded at every level from platoon to Commanding General, United States Army Aviation Center of Excellence and Fort Rucker, Alabama.

After his initial tour in the 128th Aviation Company (Assault Helicopter) at Camp Page, Korea, he was selected for assignment with Task Force 160. He has since served four tours with the 160th Special Operations Aviation Regiment with duties ranging from section leader, battalion S-3 to command at company, battalion, and regiment levels. LTG Mangum also commanded A Company, 4th Battalion, 101st Aviation Regiment and 2nd Aviation Battalion, 2nd Aviation Regiment at Camp Stanley, Korea.

LTG Mangum's joint service includes tours at the Joint Electronic Warfare Center, Kelly Air Force Base, Texas and Joint Special Operations Command at Fort Bragg. In May 2008, he was assigned to his first post as a general officer, serving as the senior commander of Fort Drum and division rear commander of the 10th Mountain Division. He served as Deputy Commanding General of 1st Armor Division and United States Division-Center, Operation Iraqi Freedom, Iraq. LTG Mangum commanded the U.S. Army Special Operations Aviation Command upon its provisional activation on March 25, 2011. LTG Mangum commanded the United States Army Aviation Center of Excellence and Fort Rucker, Alabama prior to assuming duties as the Deputy Commanding General/Chief of Staff, U.S. Army Training and Doctrine Command on 28 March, 2014.

His numerous deployments include duty in the Republic of Korea, Honduras, Persian Gulf, Turkey, Bosnia, Afghanistan and Iraq. LTG Mangum also served as a U.S. Army War College Fellow at the Fletcher School of Law and Diplomacy, Tufts University. He holds a Masters of Business Administration from Webster University. His military awards and decorations include the Distinguished Service Medal, Defense Superior Service Medal, Legion of Merit, Distinguished Flying Cross, Combat Action Badge, Parachutist Badge, Air Assault Badge and the Master Army Aviator Badge.

Major General Robert "Bo" M. Dyess
Deputy Director, ARCIC

MG Dyess assumed duties as the Deputy Director, Army Capabilities Integration Center on 6 July 2015. After graduating from Appomattox County High School, in Virginia, he received an appointment to the United States Military Academy (USMA) at West Point, NY. Upon graduation in 1982, MG Dyess was commissioned as an Infantry Officer.

During his 30 years of service, MG Dyess held command and staff assignments including: Platoon Leader, Battalion Adjutant, Rifle Company Commander, Headquarters Company Commander, Battalion Operations Officer, Deputy Division G-3, and Brigade Executive Officer during assignments in the 82d Airborne Division at Fort Bragg NC, the 3d Infantry Division (Mechanized) in both Germany and at Fort Stewart, GA, and in the Eighth U.S. Army, Korea. During this time, he also served as a Tactical Officer, United States Army School of the Americas in Panama, participated in combat operations during OPERATION URGENT FURY in Grenada, and served as a Force Integration Officer in the Pentagon. From 2000 to 2008, MG Dyess served as a Force Integration Officer & Force Management Officer with the First Army at Fort Gillem, GA and, later, as the Director, Force Integration at United States Army Forces Command, Fort McPherson, GA. From June 2008 until August 2009, he served as the Division Chief for Force Integration, Combined Security Assistance Command - Afghanistan, & OPERATION ENDURING FREEDOM, Afghanistan. Upon redeployment from Afghanistan, he assumed duty as the Director, Requirements Integration, Army Capabilities Integration Center (ARCIC), from August 2009 until May 2012. From 2012 to 2015, he was the Director of Force Development on the Army Staff at the Pentagon.

MG Dyess is a graduate of the Infantry Officer Basic and Advanced Courses; United States Army Command and General Staff College; Army Force Management Course; Air War College; and the Joint and Combined Warfighting School.

He holds a Masters of Science in Systems Engineering from Virginia Polytechnic Institute and State University and a Masters of Science in Strategic Studies from the United States Air University, Maxwell AFB, Alabama.

His military decorations include: Distinguished Service Medal, two Legion of Merits, two Bronze Stars, the Defense Meritorious Service Medal, five Meritorious Service Medals, two Army Commendation Medals, two Army Superior Unit Awards, the Combat Infantryman's Badge, the Ranger Tab, and the Senior Parachutist Badge.

Dr. Steve Cross
Executive VP for Research Georgia Tech

Stephen E. Cross is the Executive Vice President for Research of the Georgia Institute of Technology. In addition to serving as Georgia Tech's Executive Vice President for Research with oversight for research and economic development, Dr. Stephen E. Cross is a professor in the H. Milton Stewart School of Industrial and Systems Engineering and an adjunct professor in the College of Computing and the Ernest J. Scheller College of Business. He also serves as the President of the Georgia Tech Research Corporation and the Georgia Advanced Technology Ventures. He served as a Vice President and Director of the Georgia Tech Research Institute from 2003 to 2010.

Previously, Dr. Cross was at Carnegie Mellon University as a research faculty member in computer science and Director and CEO of the Software Engineering Institute. Earlier, he was a program manager at the Defense Advanced Research Projects Agency (DARPA) and a faculty member at the Air Force Institute of Technology. A retired military officer, he received the Defense Superior Service Medal (1992) and the Air Force Research Award (1986).

Dr. Cross has served on the Defense Science Board, the Air Force Scientific Advisory Board, and DARPA advisory panels. He currently serves on the executive committee of the Government-University-Industry Research Roundtable, an organization sponsored by the National Academies and on the Executive Committee of the Institute of Electrical and Electronic Engineers (IEEE) Technical and Engineering Management Society. He has published widely on leadership, innovation, culture change, software engineering, and technology transition. Dr. Cross is an IEEE Fellow and a former Editor-in-Chief of IEEE Intelligent Systems and the Journal of Information, Knowledge, and Systems Management.

He received his B.S. in Electrical Engineering from the University of Cincinnati (1974), his M. S. in Electrical Engineering from the Air Force Institute of Technology (1976), and his PhD from the University of Illinois at Urbana-Champaign(1983). He is a Distinguished Alumnus of the University of Cincinnati, College of Engineering (2002) and the Air Force Institute of Technology (2014).

Dr. Augustus Way Fountain III
Deputy Chief Scientist DASA(R&T)

Dr. Fountain is a member of the Scientific and Professional (ST) cadre of the Senior Executive Service and serves as the Deputy Chief Scientist (ST) within the Office of the Deputy Assistant Secretary of the Army (Research & Technology). In this capacity he is responsible for providing strategic vision and executive leadership for science and technology (S&T) horizon scanning, scientific studies, and international engagement. Previously, Dr. Fountain served as the Senior Research Scientist for Chemistry within the Research and Technology Directorate, Edgewood Chemical Biological Center. There he was responsible for planning, leading, and conducting cutting edge research in chemical defense related to the Research and Technology Directorate, Edgewood Chemical Biological Center, Department of Army, and Department of Defense missions. He is an internationally recognized expert in electro-optics as it pertains to chemical, biological, radiological, nuclear and explosives (CBRNE) sensing and continues to provide advice to government agencies for developing schedules and milestones for analytical chemistry and nanoscience projects to ensure appropriate emphasis on emerging technologies.

Additionally, Dr. Fountain serves as the Chair of the NATO Sensors & Electronics Technology Panel. Dr. Fountain led an Army Technology Objective that leveraged existing and emerging chemical detection technologies to specifically detect the chemical signatures of military and homemade explosives. In 2010 Dr. Fountain deployed to Iraq as a civilian scientist, advising the CEXC labs on the forensic analysis of explosives residues. He retired from the Army after 22 years of active duty where he last served as a Professor of Chemistry in the Department of Chemistry and Life Science at the United States Military Academy. Dr. Fountain's research involves the applications and development of Raman spectroscopy; the use of remote optical sensing for the detection of chemicals, biological agents and explosives; hyperspectral remote sensing; and the development of polymeric micro-sensors.

Dr. Robert Sadowski
Robotics Senior Research Scientist, TARDEC

Dr. Robert W. Sadowski is a member of the Scientific and Professional (ST) cadre of the Senior Executive Service and serves as the Robotics Senior Research Scientist within the Research, Technology and Integration Directorate at the US Army Tank Automotive Research, Development and Engineering Center (TARDEC) in Warren, MI. Recently selected to this position after a long career within the Army culminating as an Academy Professor and Electrical Engineering Program Director in the Department of Electrical Engineering and Computer Science at the United States Military Academy where he was instrumental in developing the Academy's robotics program, facilities, and outreach. He also has over forty months of operational experience in Southwest Asia in a variety of leadership, staff, and engineering positions including Iraq and recently Afghanistan.

Bob is a graduate of US Military Academy with a BSEE and received his M.S. and Ph.D. in electrical engineering from Stanford University as a Fannie and John Hertz Fellow. He also holds a Masters in Strategic Studies from the US Army War College.

Dr. Zsolt Kira

Branch Chief, Machine Learning and Analytics GTRI

Dr. Kira is the branch chief of the Machine Learning and Analytics group within the Robotics and Autonomous Systems Division at the Georgia Tech Research Institute (GTRI). He conducts research in the areas of machine learning and artificial intelligence for sensor processing and perception, with emphasis on deep learning architectures for multi-modal fusion and object detection, 3D reconstruction of static and dynamic objects, scene characterization, object discovery through clustering, and multi-source inference and reasoning. Dr. Kira has over 20 publications in these areas, has received several awards such as the best robotics paper award at AAMAS 2010, and has been invited to speak about his research at several workshops. He has also taught the graduate-level Deep Learning for Perception course at Georgia Tech. He is a member of IEEE and IEEE Robotics and Automation Society.

Dr. Jaime Carbonell

Allan Newell Professor of Computer Science, CMU

University Professor and Allan Newell Professor of Computer Science Jaime G. Carbonell joined the Carnegie Mellon community as an assistant professor of computer science in 1979, and has gone on to become a widely recognized authority in machine translation, natural language processing and machine learning. Carbonell has invented a number of well-known algorithms and methods during his career, including proactive machine learning and maximal marginal relevance for information retrieval. His research has resulted in or contributed to a number of commercial enterprises, including Carnegie Speech, Carnegie Group and Dynamix Technologies.

In addition to his work on machine learning and translation, Carbonell also investigates computational proteomics and biolinguistics — fields that take computational tools used for analyzing language and adapt them to understanding biological information encoded in protein structures. This process leads to increased knowledge of protein-protein interactions and molecular signaling processes.

Carbonell's career has had an enormous impact on both Carnegie Mellon and the School of Computer Science. He created the university's Ph.D. program in language technologies, and is co-creator of the Universal Library and its Million Book Project. He founded CMU's Center for Machine Translation in 1986 and led its transformation in 1996 into the Language Technologies Institute, which he currently directs. He has advised more than 40 Ph.D. students and authored more than 300 research papers.

Before joining the Carnegie Mellon faculty, Carbonell earned bachelor's degrees in mathematics and physics at the Massachusetts Institute of Technology, and his master's degree and Ph.D. in computer science at Yale University.

Brynt Parmeter
NextFlex

Brynt has a diverse background in both the public and private sectors. In addition to leading the Workforce Development, Education, and Training functions for NextFlex, he also serves as a Science and Technology Policy Fellow for the Department of the Energy's Advanced Manufacturing Office, is the Co-Founder and Head of Business Development for WorkScouts, a technology platform designed to connect transitioning service members and veterans with education and employment opportunities in advanced manufacturing, and is a Partner with BMNT, a Palo Alto, CA based company focused on solving national security problems through the application of Lean Startup principles. Prior to these roles, Brynt served nearly 25 years as an Infantry Officer in the U.S. Army rising to the rank of colonel. Throughout his time in uniform he served in numerous operations, training, leader development, strategic planning, and talent management roles in both peacetime and combat and within a wide variety of organizations throughout the United States, Europe, Asia, and the Middle East. He holds a BS in Systems Engineering from the U.S. Military Academy at West Point, NY, several masters degrees from Louisiana State University and the US Army War College respectively, and a graduate level certificate in Business and Entrepreneurship from Stanford University.

August Cole
Atlantic Council/Author

August Cole is a nonresident senior fellow at the Brent Scowcroft Center on International Security at the Atlantic Council where he directs The Art of the Future Project, which explores narrative fiction and visual media for insight into the future of conflict. He is a non-resident fellow at the Modern War Institute at the United States Military Academy. He is also writer-in-residence at Avascent, an independent strategy and management consulting firm focused on government-oriented industries.

He is a regular speaker to private sector, academic and US and allied government audiences. His bestselling first book Ghost Fleet: A Novel of the Next World War (2015) is a collaborative novel written with Peter W. Singer and has been translated into more than six languages. He also edited the 2015 Atlantic Council science fiction collection, War Stories From the Future. He's also written numerous short stories about the future of war, including Discards and Underbelly. Before turning to fiction, he worked as a journalist, last covering the defense industry for the Wall Street Journal in Washington where he helped break numerous stories, including Chinese cyberspies hacking the F-35 program.

He received a Bachelor of Arts degree from the University of Pennsylvania and a Master in Public Administration degree (Mid-Career MPA program) from the John F. Kennedy School of Government at Harvard University.

Dr. Charles Pippin
Aerospace, Transportation and Advanced Systems, GTRI

Dr. Charles Pippin is a senior research scientist in the Aerospace, Transportation and Advanced Systems (ATAS) Laboratory at the Georgia Tech Research Institute (GTRI). He leads the research and development of collaborative autonomy algorithms on multiple sponsored programs for the Department of Defense.   Recently, he led the algorithm and architecture design and development for the ONR LOCUST program, resulting in multiple live field tests of thirty fixed-wing, swarming UAVs. On other projects, he has led a team of researchers performing autonomous collaboration using GTRI's research fleet of UAVs, resulting in multiple successful field demonstrations of collaborative autonomy with unmanned aerial, ground, and maritime vehicles. He has over twenty years of experience in the full lifecycle of software development.

His research interests include collaborative autonomy algorithms, machine learning, multi-robot systems and unmanned systems. His ongoing research includes the investigation of task allocation, swarming and patrolling algorithms on robot and unmanned vehicle platforms.

Dr. Pippin received the Ph.D. in Computer Science from the Georgia Tech College of Computing as well as the MSCS from Georgia Tech. He also received a BSCS from the University of Alabama in Huntsville.

Juliane Gallina

Director, Cognitive Solutions for National Security (NA), IBM

Juliane Gallina is the Director, Cognitive Solutions for National Security (North America). She has led efforts to adapt Watson technology for global national security clients since 2011.

In previous IBM assignments she led engagements for the US Intelligence Community with analytic technology development for the Director of National Intelligence staff, National Counter Terror Center (NCTC), the National Counter Proliferation Center (NCPC) and several other clients. Previous to her career with IBM, she served as a government civilian engineer at the National Reconnaissance Office with a focus on the design, development, deployment and operations of spacecraft and their ground systems. In parallel with her civilian career, Ms. Gallina served as a naval officer with a specialization in Information Warfare and subspecialty in Space Systems. In 2013, she retired from the US Navy (Reserve) as a Commander.

Ms. Gallina graduated with honors from the U.S. Naval Academy in 1992. She graduated from the Naval Postgraduate School in 1998 with a Masters Degree in Space Systems Operations. She earned a Masters Degree in Electrical Engineering from George Washington University in 2006.

Dr. James Canton
CEO and Chairman of the Institute for Global Futures

Dr. James Canton is a renowned global futurist, social scientist, author, and visionary business advisor. As a former Apple Computer executive and high tech entrepreneur, he has been insightfully forecasting the key trends and technologies that have shaped our world. The Economist recognizes him as one of the leading global futurists. He has advised three White House Administrations and over 100 companies.

Dr. Canton is CEO and Chairman of the Institute for Global Futures, a leading think tank he founded in 1990 that advises business and government. A frequent guest of the media, he was named "the Digital Guru" by CNN and "Dr. Future" by Yahoo for his insights. Dr. Canton is the author of The Extreme Future: The Top Trends That Will Reshape the World in the 21st Century, Dutton 2006, and Technofutures: How Leading-Edge Innovations Will Transform Business in the 21st Century.

Dr. Canton advises the Global Fortune 1000 on trends in innovation, financial services, health care, population, life sciences, energy, security, workforce, climate change and globalization. From a broad range of industries, clients include: IBM, Tata, Intel, Philips, General Electric, Hewlett Packard, Boeing, FedEx, and Proctor & Gamble.

Recognized as "one of the top presenters in the 21st century" by Successful Meetings Magazine, Dr. Canton is a highly sought-after keynote presenter. He has spoken to thousands of organizations on five continents. He is noted for his fascinating, informative, dynamic and entertaining keynotes.

A frequent guest of the media, Dr. Canton has been a commentator on CNN, CNBC, Fox, PBS, ABC. Media coverage has included CNBC, Fox, PBS, ABC, Fortune, The Wall Street Journal, The Economist, Bloomberg Report, The New York Times, US News and World Report, CEO, CIO and CFO Magazines. His FutureGuru blog and Twitter followers reach a worldwide audience.

Dr. Canton has held a academic appointments at Singularity University at NASA, the Kellogg School of Management, MIT's Media Lab, Europe, the Potomac Institute, and served on the International Advisory Council, Economic Development Board for the State Singapore, been an advisor to the National Science and Technology Council, US Departments of State, Defense and Health and Human Services.
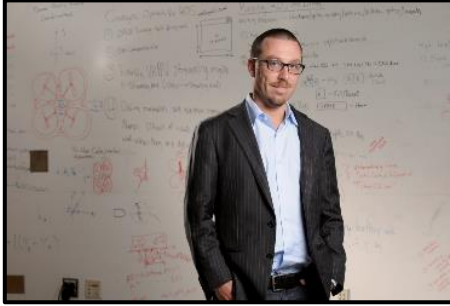
Magnus Egerstedt, Ph.D.
Executive Director for the Institute for Robotics and Intelligent Machines, Georgia Tech

Dr. Egerstedt is the Executive Director for the Institute for Robotics and Intelligent Machines at the Georgia Institute of Technology. He is a Professor and the Julian T. Hightower Chair in Systems and Controls in the School of Electrical and Computer Engineering, with secondary appointments in the Woodruff School of Mechanical Engineering, the School of Interactive Computing, and the Guggenheim School of Aerospace Engineering.

Dr. Egerstedt conducts research in the areas of control theory and robotics, with particular focus on control and coordination of complex networks, such as multi-robot systems, mobile sensor networks, and cyber-physical systems. Magnus Egerstedt is a Fellow of the IEEE, and has received a number of teaching and research awards, including the Ragazzini Award from the American Automatic Control Council, the Outstanding Doctoral Advisor Award and the HKN Outstanding Teacher Award from Georgia Tech, and the Alumni of the Year Award from the Royal Institute of Technology.

He received the M.S. degree in Engineering Physics and the Ph.D. degree in Applied Mathematics from the Royal Institute of Technology, Stockholm, Sweden, the B.A. degree in Philosophy from Stockholm University, and was a Postdoctoral Scholar at Harvard University.

Nahid Sidki, PhD

Executive director of the robotics center, SRI International

Over 26 years of technical and management experience in advanced research and development, robotics, advanced sensors development and integration, software for intelligent control, software architecture for robotics, high performance computing, state-of-the-art modeling and simulation, and the application of robotics to solve real world problems, design and engineering of complex systems for both government and commercial industries. Manage technology development and provide innovation solutions with a clear understanding of the processes and business of technology, from invention to implementation and from investment to programs. Dr. Sidki, is serving as an executive director of the robotics center at SRI international. In this role, he leads a team of engineers and scientists in developing robotics capabilities, software architectures, new devices, consumer products and technologies for commercial and government clients. Prior of joining SRI, Dr. Sidki served as senior director of system R&D at Auris surgical robotics.

Paul Scharre
Center for a New American Security

From 2008-2013, Mr. Scharre worked in the Office of the Secretary of Defense (OSD) where he played a leading role in establishing policies on unmanned and autonomous systems and emerging weapons technologies. Mr. Scharre led the DoD working group that drafted DoD Directive 3000.09, establishing the Department's policies on autonomy in weapon systems. Mr. Scharre also led DoD efforts to establish policies on intelligence, surveillance, and reconnaissance (ISR) programs and directed energy technologies. Mr. Scharre was involved in the drafting of policy guidance in the 2012 Defense Strategic Guidance, 2010 Quadrennial Defense Review, and Secretary-level planning guidance. His most recent position was Special Assistant to the Under Secretary of Defense for Policy. Prior to joining OSD, Mr. Scharre served as a special operations reconnaissance team leader in the Army's 3rd Ranger Battalion and completed multiple tours to Iraq and Afghanistan. He is a graduate of the Army's Airborne, Ranger, and Sniper Schools and Honor Graduate of the 75th Ranger Regiment's Ranger Indoctrination Program.

Mr. Scharre has published articles in The New York Times, Foreign Policy, Politico, Proceedings, Armed Forced Journal, Joint Force Quarterly, Military Review, and in academic technical journals. He has presented at the United Nations, NATO Defence College, Chatham House, National Defense University and numerous other defense-related conferences on robotics and autonomous systems, defense institution building, ISR, hybrid warfare, and the Iraq war. He has appeared as a commentator on CNN, MSNBC, NPR, the BCC, and Swiss and Canadian television. Mr. Scharre is a term member of the Council on Foreign Relations. He holds an M.A. in Political Economy and Public Policy and a B.S. in Physics, cum laude, both from Washington University in St. Louis.

Gary Ackerman, PhD
Director of the Unconventional Weapons and Technology Division, START

Gary Ackerman is the Director of the Unconventional Weapons and Technology Division of START, where he manages large research projects, explores new avenues for research and establishes collaborative research relationships. Prior to taking up his current positions, Ackerman held the posts of Research Director and then Special Projects Director at START and the Director of the Center for Terrorism and Intelligence Studies, a private research and analysis institute. He has also served as the Director of the Weapons of Mass Destruction Terrorism Research Program at the Center for Nonproliferation Studies in Monterey, Calif., and chief of operations of the South Africa-based African-Asian Society. Ackerman possesses an eclectic academic background, including past studies in the fields of mathematics, history, law and international relations. His research encompasses various areas relating to terrorism and counterterrorism, including terrorist threat assessment, motivations for using chemical, biological, radiological, and nuclear (CBRN) weapons, radicalization, the relationship between terrorism and technology, and the modeling and simulation of terrorist behavior. He is the co-editor of Jihadists and Weapons of Mass Destruction (CRC Press, 2009), author of several articles on CBRN terrorism and has testified on terrorist motivations for using nuclear weapons before the Senate Committee on Homeland Security. Ackerman received his BA and BA (Hons) degrees from the University of the Witwatersrand in South Africa and his MA in International Relations from Yale University. He completed his PhD in War Studies at King's College London, dealing with the impact of emerging technologies on terrorist decisions relating to weapons adoption.

Alexander Kott, PhD
Chief, Network Science Division, ARL

Dr. Kott serves as the Chief, Network Science Division, Computational and Information Sciences Directorate, US Army Research Laboratory headquartered in Adelphi MD.

In this current position, he is responsible for a diverse portfolio of fundamental research and applied development in network science and science for cyber defense. He played a key role in initiating the Network Science Collaborative Technology Alliance, among the world-largest efforts to study interactions between networks of different types. His efforts helped start Cyber Security Collaborative Research Alliance, a unique program of creating basic science of cyber warfare.

In 2013, Dr. Kott served as the Associate Director for Science and Technology of the ARL's Computational and Information Sciences Directorate; in 2015 he also served as the Acting Director of the Computational and Information Sciences Directorate.

Beginning his Government career, between 2003 and 2008, Dr. Kott served as a Defense Advanced Research Programs Agency (DARPA) Program Manager responsible for a number of large-scale advanced technology research programs, particularly in predictive analytics.

His earlier positions included Director of R&D at Carnegie Group, Pittsburgh, PA; and Information Technology Research Department Manager at AlliedSignal, Inc., Morristown, NJ. There, his work focused on novel information technology approaches to complex problems in engineering design, and planning and control in manufacturing, telecommunications and aviation industries.

Dr Kott received the Secretary of Defense Exceptional Public Service Award and accompanying Exceptional Public Service Medal, in October 2008.

He earned his PhD from the University of Pittsburgh, Pittsburgh PA in 1989. He published over 80 technical papers and served as the initiator, co-author and primary editor of several technical books.

Louis Mazziotta

Armament Software Engineering Center, ARDEC

Louis Mazziotta serves as the Senior Scientist at US Army – ARDEC - Armament Software Engineering Center located at Picatinny Arsenal, NJ. He has a long standing passion for science and technology. He is a cold war veteran who served in the US Army as a Tactical Communications Systems Operator/Mechanic and credits this experience in shaping his holistic view of systems, engineering and problem solving. Mr. Mazziotta earned two Bachelor of Science degrees from East Stroudsburg University. He graduated Suma Cum Laude with a B.S. in Pre-medicine and graduated Suma Cum Laude with a B.S. in Computer Science. While in school he interned at National Aeronautical and Space Administration (NASA) Ames Research Center, Mountain View, CA, where he studied collision detection of virtual bodies and proposed an algorithm with improved detection speeds. Mr. Mazziotta also Interned at NASA Dryden Flight Research Center, Edwards Air force Base, where he succeeded in writing software that integrated systems, sensors and commercial software that allowed an operator to visually pinpoint, in real-time, the source of a radio transmission or interference on a map. At the end of this internship he was offered a position and employed by NASA Dryden Flight Research Center for the next three years before finding his way back to the US Army to serve as a civilian scientist and software engineer.