George Mason University, located in the heart of Northern Virginia’s technology corridor near Washington, D.C., is an innovative, entrepreneurial institution with national distinction in a range of academic fields. With strong undergraduate and graduate degree programs in engineering, information technology, biotechnology and health care, Mason prepares its alumni to succeed in the workforce and meet the needs of the region and the world. Mason professors conduct groundbreaking research in areas such as cancer, climate change, information technology and the biosciences. Mason’s Center for the Arts brings world-renowned artists, musicians and actors to its stage. Its School of Law is recognized by “U.S. News and World Report” as one of the top 40 law schools in the United States.

About The Volgenau School of Information Technology and Engineering

The Volgenau School of Engineering is located in the Fairfax campus of George Mason University in the Commonwealth of Virginia. The Volgenau School offers programs at the B.S., M.S., and Ph.D. levels. In 2009, the school moved to a new 180,000 sq. ft. (17,000 m2) building, which is a LEED certified green building.

About C4I Center of Excellence

Command, Control, Communications, Computing and Intelligence (C4I) systems are essential to our national security. History provides many examples of how C4I has influenced the outcome of an engagement or an entire conflict. In spite of its importance there is not an adequate intellectual base for the C4I area, and comprehensive educational programs in C4I do not exist in civil institutions.

To fill these needs, the Center of Excellence in C4I at George Mason University is the nation’s first and only civilian university-based entity offering a comprehensive academic and research program in military applications of information technology. The center performs research in sensing and fusion, C3 architectures, communications and signal processing, command support and intelligent systems, modeling and simulation, and information systems. The center is allied with multiple academic departments, including Computer Science, Electrical/Computer/Telecommunications Engineering, Statistics, Systems Engineering and Operations Research. The last of these offers Master of Science in Systems Engineering with a major in C4I and also graduate certificates in both C4I and Military Operations Research.
Brazilian Delegation Visit to the Volgenau School of Engineering

Schedule of Activities

Date: May 18th, 2012,
Time: 1:30 pm – 5:00 pm
Place: Room 4801

✓ 1:30 – Welcome – Peter Sterns (GMU Provost)
✓ 1:45 – The C4I Center – Dennis McBride (C4I Associate Director)
✓ 2:10 – Main Research Initiatives and Capabilities at GMU-VSE
  o Kathryn Laskey
  o Michael Hieb
  o Sushil Jajodia
  o Lance Sherry
✓ 3:30 – C2 Simulation Testbed / Discussion – Paulo Costa
✓ 4:00 – Tour of the GMU Campus
✓ 5:00 - Adjourn

Delegation Roster

Brazilian Army:
1. Maj-Gen (O-8) Bráulio de Paula Machado (CDS – Commander)
2. Lt. Col. Andersonn Kohl (CDS – SISTED Project)
3. Maj. Marcelo Nogueira de Souza (CDS - GC2 Project)
4. Maj. Daniel Maier de Carvalho (CDS – C2 in Combat Project)

Brazilian Air Force:
1. Col. Reynaldo Pereira Alfarone Júnior   (EMAER - Chief of the C2 Subsection)
2. Cap. Romulo Silva de Oliveira (COMGAR)
3. Cap. Luis Felipe de Moura Nohra (EMAER)
4. MSgt Arthur Eduardo Paiva Dias de Sá (COMGAR)

ITA (sponsored by the BAF):
1. Lt. Col. Henrique Costa Marques (PhD Student – C4I Affiliate)
2. Maj. José Bernardo Neto (PhD Student – will come to C4I in 2013)
3. Prof. José Maria Parente de Oliveira (C2 Testbed Coordinator)
4. Prof. Edgar Toshiro Yano
Peter N. Stearns became Provost and Professor of History at George Mason University on January 1, 2000. He has taught previously at Harvard, the University of Chicago, Rutgers, and Carnegie Mellon; he was educated at Harvard University. Dr. Stearns has authored or edited over 100 books. He has published widely in modern social history, including the history of emotions, and in world history. As Provost at George Mason, Dr. Stearns has worked to expand research capacities, to add or enhance centers of strength such as the arts, biomedical research and education, and public health, and to increase the global activities and educational goals of the University.

Dennis K. McBride very recently joined the faculty and administration at GMU. He will split his time between serving as Associate Director of the C4I Center (along with Dr. Kathy Laskey) and as interim GMU Associate VP for Research. He retired in 1999 as a Naval Aerospace Experimental Psychologist, having served in five customer-focused laboratories and three R&D headquarters organizations, including DARPA ONR. Since that time, McBride has served as Professor and Director of the Institute for Simulation and Training at the University of Central Florida, President of the Potomac Institute for Policy Studies, and recently as a return program manager in C2 advanced research at DARPA. His science and technology leadership has focused on C2 / modeling and simulation, and its necessary connectivity to human nervous systems. He earned the Ph.D. in experimental psychology from the University of Georgia, and post doctoral master's degrees in systems, and in public administration. McBride is affiliated professor the Georgetown University Medical Center and at the Georgetown Public Policy Institute. Having published extensively, his co-edited book, Quantifying Human Information Processing (Rowman and Littlefield) deals with many of the challenges of human decision-making in C2 contexts.
Kathryn Laskey is a Professor at the Department of Systems Engineering and Operations Research, and Associate Director of the C4I Center. She received her PhD in Statistics and Public Affairs from Carnegie Mellon University, and is a recognized leader in the application of Bayesian methods to automated support for multi-source fusion and situational awareness. She teaches and performs research on mathematical algorithms for Bayesian inference and learning, and multi-source evidential reasoning. Applications include modeling the emplacement of improvised explosive devices, predicting aircraft delays, managing terrorist risk at public facilities, judicial reasoning, and planning military engagements. Dr. Laskey developed multi-entity Bayesian networks (MEBN), a language and logic that extends classical first-order logic to support probability. Dr. Laskey is co-PI of a research program on counter-IED research sponsored by JIEDDO. She was a key contributor to the development of PR-OWL, an upper ontology that allows MEBN theories to be represented in OWL ontologies. Dr. Laskey served on a National Academy of Sciences committee to assess the statistical validity of the polygraph and has served on several boards and committees of the National Academy of Sciences, and currently serves on the editorial board of the Journal of Artificial Intelligence Research.

Michael Hieb is a Research Associate Professor at George Mason University’s Center for Excellence in Command, Control, Communications, Computers and Intelligence (C4I Center) and a Technical Director for the Army’s Simulation to C4I Overarching IPT (SIMCI OIPT). Dr. Hieb is the C4I Center’s Lead for its Modeling and Simulation (M&S) Technology Focus Area. From 1997 to present Dr. Hieb has worked to formalize the information required for Command and Control (C2) of Military Organizations as well as Civil and Non Governmental Organizations. This has involved starting NATO and IEEE working groups and has spanned the fields of Computer Science, Networking, Semantics, and Computational Linguistics. Dr. Hieb has over 100 Publications and has presented his research on Command Intent to many International C2 and M&S Forums, as well as tutorials at I/ITSEC and SISO. Dr. Hieb also was the Principal Investigator for several major projects at the C4I Center, including research for the Army Geospatial Center developing methods for integrating C2, M&S and Geospatial functionality. He received his PhD in Information Technology from George Mason University in 1996, a MS in Artificial Intelligence &Human Factors from George Washington University and a BS in Nuclear Engineering from UC Santa Barbara.
Sushil Jajodia is University Professor, BDM International Professor, and the director of Center for Secure Information Systems in the Volgenau School of Engineering at the George Mason University, Fairfax, Virginia. He served as the chair of the Department of Information and Software Engineering during 1998-2002. He joined Mason after serving as the director of the Database and Expert Systems Program within the Division of Information, Robotics, and Intelligent Systems at the National Science Foundation. Before that he was the head of the Database and Distributed Systems Section in the Computer Science and System Branch at the Naval Research Laboratory, Washington and Associate Professor of Computer Science and Director of Graduate Studies at the University of Missouri, Columbia. He has also been a visiting professor at the University of Milan, Italy; Sapienza University of Rome, Italy; Isaac Newton Institute for Mathematical Sciences, Cambridge University, England; and King's College London, England. Dr. Jajodia received his PhD from the University of Oregon, Eugene. The scope of his current research interests encompasses information secrecy, privacy, integrity, and availability problems in military, civil, and commercial sectors. He has authored or coauthored six books, edited 38 books and conference proceedings, and published more than 400 technical papers in refereed journals and conference proceedings. He is also a holder of eight patents and has several patent applications pending. He received the 1996 IFIP TC 1 Kristian Beckman award, 2000 Volgenau School of Engineering Outstanding Research Faculty Award, 2008 ACM SIGSAC Outstanding Contributions Award and 2011 IFIP WG 11.3 Outstanding Research Contributions Award. He was recognized for the most accepted papers at the 30th anniversary of the IEEE Symposium on Security and Privacy. He has supervised 26 doctoral dissertations. His h-index is 70 and Erdos number is 2.

Lance Sherry is Associate Professor of Systems Engineering and Operations Research at George Mason University. Dr. Sherry also serves as the Director of the Center for Air Transportation Systems Research at George Mason University. Dr. Sherry has over 26 years experience in the industry ranging from flight test, avionics design and certification, program management, strategic planning, and research. He has published over 100 papers and journal articles, holds several patents, and has received several awards for his work.

Dr. Sherry's work at the Center for Air Transportation Systems Research (CATSR) involves developing the analytical and simulation methods to measure and model the performance of stochastic networks-of-networks composed of adaptive, distributed, competing agents. These models are used for strategic planning, concept evaluation, benefits analysis, and certification.
Paulo C. G. Costa is an Associate Professor at the Department of System Engineering and Operations Research, and Research Director - International C2 Activities, at the Center of Excellence in C4I. Prof. Costa received his PhD in Information Technology from GMU. His research interests comprise the areas of decision support systems, uncertainty representation and reasoning, complex systems design and integration, and multi-sensor data fusion. Dr. Costa developed PR-OWL, a probabilistic ontology language for the Semantic Web, and was a key contributor to UnBBayes-MEBN, a Java-based, open source implementation of Multi-Entity Bayesian Networks and the PR-OWL language. His research path also includes work as a W3C invited expert in the area of uncertainty reasoning, as a Chair of the OIC/STIDS conferences, and as a leading organizer of the Uncertainty Reasoning for the Semantic Web workshop series. Prof. Costa has also acted as a program committee member in diverse academic fora, and as an invited professor at the University of Brasilia and at the Instituto Tecnológico da Aeronáutica (ITA - Brazil). He is a former fighter pilot and a retired Brazilian Air Force Lt. Col., where he spent this last eight years of active duty working as a senior systems engineer assigned to the Chiefs-of-Staff strategic planning and operation systems divisions. Dr. Costa is recipient of the GMU’s Academic Excellence in Systems Engineering Award, and it is one of the few people to date who have graduated with honors in all the BAF’s three major career courses.