Gary S. Schebella

Chief Scientist & Executive Consultant / Principal

EXPERIENCE/SUMMARY:

Gary S. Schebella is the chief scientist for NBS Enterprises. He has participated in the management, analysis and development of several DoD systems. He has addressed Federal Aviation Administration operations and performed optimization studies for aircraft maintenance, scheduling of flights, gates and personnel. He is engaged in sensor management and sensor exploitation system development to counter nuclear/bio-chemical threats for the Defense Threat Reduction Agency (DTRA). He has directed research teams, simulated and modeled enterprises in order to compute performance, to derive requirements and to assist with the transition of 'as-is' to 'to-be' system architectures. He has developed optimal flow algorithms for communications systems as well as dynamic sensor and communications node reconfigurations. He has created innovative techniques in business process reengineering and analytic decision support for manned aircraft/ unattended air vehicles, sensor management, logistics and communications networks. He once acted as the primary analyst for the honorable Paul Nitze during the strategic arms limitations talks with the Soviet Union. While an air force officer in Southeast Asia, he developed and assessed interdiction schemes for sensors located on the Ho Chi Minh trail. He also was the project officer for a 3000-pound laser guided bomb used to destroy bridges between North Viet Nam and China. He has been active in health care analysis, drone mission analysis and the management of projects in a sequestration environment. His methods provide guidance for the system design and development process and help to ensure performance prior to implementation. They also provide near real-time course of action evaluations during system operations.

KEY ACCOMPLISHMENTS / EXPERIENCE

Chief Scientist/ Sensor Management (2006-2013)

- 2013-Analysis of Sensor Exploitation Systems for the Defeat of Nuclear Terrorists: Devised a systems architecture for the detection and interdiction of nuclear terrorists/ Defense Threat Reduction Agency (DTRA).
- 2008-Nuclear Terrorism, An Assessment of Land Deterrence Concepts: Defined and assessed nuclear terrorists tactics and US countermeasures for an encompassing set of land threats/ DTRA.
- 2007-An Analysis of Sensor Applications and Mixed Deployment Strategies for Nuclear Threat Reduction: Simulated, modeled and assessed combinations of decoys and fixed and mobile sensors to best detect and interdict nuclear terrorists/ DTRA.
- 2006-An Analysis of Biological Detection Systems: Evaluated the biological sensor deployment schemes for Camp Lejeune, NC and San Diego, CA. Provided optimal sensor selections and location schemes for both areas of deployment/ DTRA.

Chief Scientist/ Decision Support (2002-2013)

- 2011/ 2013-Developed optimal procedures and algorithms for project management and sequestration, health care analysis, deconfliction of drones and commercial aircraft, and optimal scheduling of resources for numerous enterprises.
- 2006/ 2009-Developed algorithms to optimally distribute assets in response to sensor exploitation system detections/ DTRA.
- 2006/ 2012-Mapped representations of the control system and functional components of the human body to a set of graphs which can be processed as a dynamic net/ Basic Research.
- 2006/ 2008-Developed algorithms to optimally select and position software and hardware within a distributed information system network/ Comanche Helicopter.
- 2002/ 2006-Developed optimization algorithms for the distribution of Navy/ Marine Corps supplies: synthesis of supplies in response to missions and rapid requests, optimal routing, optimal loading, merging of supply orders, multiple stops per delivery platform and retrograde/ ONR and Dahlgren NSWC.

Chief Scientist/ Information Technology (1987-2013)

- 1996/ 2013- Business Process Reengineering, Enterprise Analysis, Management, Simulation, Modeling and Network Optimization:
  - Optimal Communications Routing for an Information System Backplane/ FBI
  - Comanche Helicopter Software/ US Air Force
  - NASA Financial Management System/ NASA
  - Reserve Component Automation System/ National Guard and Reserve
  - Saudi Air Defense System/ Saudi Arabia
  - JTIDS Test Bed/ Boeing
  - Space Station Software/ NASA
  - Sensor Exploitation System for Terrorist Defeat/ DTRA
- 2008/ 2009-Developed a preliminary design for a sensor exploitation system to be used for the detection and interdiction of weapons of mass destruction. He identified components and assessed overall performance for an information system architecture. The encompassing design plan includes a concept of operations, command and control features, a communications network, an information system architecture, sensor definitions and decision support algorithms.
- 1998/ 2002-Modeled an FBI information network and developed a set of algorithms to optimize message traffic flow through the system backplane.
- 1998-Coordinated with Boeing management to develop enterprise analysis procedures, published papers, and assisted with the transition from "as-is" to "to-be" information system architectures for RCAS, the NATO financial system and the Saudi Air Defense System.
- 1987/1988-Division Director at the Software Productivity Consortium: Lead a 23-man effort to conduct research and to develop an analytical tool suite for the assessment of software performance prior to the writing of instruction sets. Also addressed software reuse, network optimization and user-friendly graphical interfaces.

Chief Scientist/ Logistics (1999-2013)

- 2008-2013-Assessment of Delivery Vehicles for Logistics Distribution, Dahlgren Naval System Warfare Center (NSWC): Assessed distribution performance of gliders, unattended air vehicles, helicopters, cargo aircraft, and VTOL aircraft.
- 2008-Logistics Workshop for ONR, Documented sense and respond tactics
- 2007-Sea Base Concepts of Operation and Logistics Technology Applications: Modeled and assessed the Navy/ Marine Corps supply chain for ONR.
- 2006-Logistics Distribution from the Sea Base: Modeled and assessed logistics distribution from the Sea Base to expeditionary forces/ ONR.
- 2005- Investment Strategies for Logistics Research and Development: Developed an investment strategy for ONR logistics research and development.
- 2004-A Vision of Focused Logistics for Sea Base Applications: Initiated research and prepared a concept of operations for Sea Base logistics/ ONR.
- 2003-Decision Support for Logistics Distribution: Conducted research and developed analytical algorithms for logistics decision support and course of action computations/ ONR.
- 2002-An Analysis of US Coast Guard Logistics/ Deepwater Project: Assessed distribution procedures and command and control of Coast Guard logistics distribution.
- 2001-Concept Analysis of Naval Logistics Systems: Investigated essentially all relevant technologies and operational procedures for logistics distributions to expeditionary forces/ ONR.
- 2000-Information System Infrastructure for Naval/ Marine Corps Logistics: Documented descriptions of existing equipment and procedures and recommended a spectrum of potential improvements to the Navy/ Marine Corps information system enterprise/ ONR and Dahlgren NSWC.
- 1999-Marine Corps Fuel Distribution: Investigated and assessed existing fuel distribution system and recommended improvements/ ONR and Dahlgren NSWC.

EDUCATION AND CERTIFICATIONS

- B.S., Physics, University of Arizona
- M.S., Operations Research, George Washington University

Publications: Numerous papers and technical reports relative to information systems (Boeing, NASA and DTRA), logistics (ONR, Dahlgren NSWC), sensors (DTRA), and decision support (ONR, Dahlgren NSWC, and DTRA).