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# ARMY SCIENCE BOARD

**Biographical Sketch Book  
April 2005**

***50<sup>th</sup> Anniversary Edition***

Department of the Army  
Assistant Secretary of the Army  
(Acquisition, Logistics and Technology)  
Washington, DC 20310-0103



#### **Mission and Goals**

The Army Science Board will provide the Army with a resource of world-class scientists, engineers, technologists and operational experts as well as business, policy and managerial specialists who will volunteer their expertise and time to address those critical national security challenges for which the Army's leadership seeks independent and unbiased technical advice. ASB will focus on issues of importance to large segments of the Army, and its "products" will be delivered in a candid, timely and tailored fashion.

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## **THE ARMY SCIENCE BOARD**

**Dr. Frank H. Akers, Jr.**  
Acting Chair

**Dr. Lawrence J. Delaney**  
Vice Chair

**LTC Scott S. Haraburda**  
Executive Secretary

**LTC Richard A. Shaw, Jr.**  
Executive Officer

**Mr. Wayne Joyner**  
Executive Assistant

**Mrs. Melanie McAnney**  
TMC Design Corp.  
Database Manager

**Ms. Carolyn German**  
Administrative Support  
Assistant

**Mr. Gabriel Sorzano**  
TMC Design Corp.  
Tech Writer

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<https://webportal.saalt.army.mil/main/asb.htm>

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The Army Science Board (ASB) observed a major milestone on November 16, 2004, when it marked the 50<sup>th</sup> Anniversary of the official first meeting of the Army Scientific Advisory Panel (ASAP), which is the predecessor of the ASB. Ironically, this was the same date that the Senate confirmed a former member of the ASB as the Secretary of the Army. Three days later, Dr. Francis J. Harvey was sworn in as the 19<sup>th</sup> Secretary. On December 6, 2004 during the ASB December Plenary Meeting, ASB Members were honored as special guests to the Welcome Ceremony for the new Secretary at Fort Myers, VA.

In honor of this special occasion, we have developed a special edition of the ASB Biographical Sketch Book. This book contains some additional historical information since the founding of the ASAP in the early 1950's. It also contains a list of all past members of the ASAP and ASB since 1951. Additionally, it includes a list of the previous Executive Secretaries. Finally, this book contains a list of all studies and special projects that the ASAP and ASB have done since 1960. However, due to the accuracy and availability of the historical records within the offices of the Secretariat, some information is missing and some dates may be incorrect.

We hope that you enjoy reading this edition of this biographical book and will use it for future reference.

Scott S. Haraburda, PhD, PE  
Lieutenant Colonel, General Staff  
Executive Secretary



The Army Science Board (ASB) is a Federal Advisory Committee organized under the Federal Advisory Committee Act. It is the Department of the Army senior scientific advisory body chartered in 1977 to replace the Army Scientific Advisory Panel (ASAP). In November 1951, Army Secretary Frank Pace, Jr. appointed twelve outstanding scientists and industrialists as members of a scientific advisory panel to assist him and the army leadership in creating an effective, economical, and progressive fighting force using existing scientific technology and industrial resources. The first major effort of this panel was the successful removal of research and development activities from the G-4. Three years later, this panel was expanded and officially designated the ASAP, with its first formal meeting held on November 16, 1954.

The ASB advises and makes recommendations to the Secretary of the Army, the Chief of Staff of the Army, the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT)), the Army Staff, and major Army commanders on scientific and technological matters of concern to the Army. The Secretary of the Army delegates oversight authority to the ASA(ALT), who functions as the ASB Director.

The ASB is comprised of distinguished individuals from the private sector, academia, retired flag officer ranks, and non-DoD government agencies. Members are appointed to the ASB by the Secretary of the Army for renewable three-year terms. The Secretary of the Army appoints the Chair and the Vice Chair from the ASB membership. The ASB Chair also serves as an ex-officio member of the Defense Science Board. ASB membership is augmented by a small number of consultants who are appointed to one-year terms and who provide specialized input to ASB studies.

The ASB conducts an annual General Membership meeting. These meetings enable members to review ASB activities, become better educated on Army issues, and provide advice to local Army managers. Typically, one or two Summer Studies are conducted each year focusing on major Army issues. These are one year in length, highlighted by a July brief-out to the Secretary of the Army and the Army Chief of Staff. The Board also conducts Task Force (or Ad Hoc) studies and Independent Assessments, which are shorter and focus on a smaller range of issues.

Administrative support for the ASB is accomplished by the ASB Secretariat. The Secretariat consists of the Executive Secretary, staff personnel, and support contractors. The Secretariat provides guidance and supports the ASB with its interactions within the Army.

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## ARMY SCIENCE BOARD

### MEMBERS

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**ARMY SCIENCE BOARD MEMBERS**

**Akers, Dr. Frank H., Jr.**  
Acting Chair, Army Science Board  
Oak Ridge National Laboratory

**Delaney, Dr. Lawrence J.**  
Vice Chair, Army Science Board  
Executive Vice President, Titan Corporation

**Adler, Dr. Edward Allen**  
Boeing Company

**Beck, Mr. Buddy G.**  
Viisage

**Borsting, Dr. Jack R.**  
University of Southern California

**Braddock, Mr. Anthony J.**  
Loch Harbour Group, Inc.

**Braddock, Dr. Joseph V.**  
The Potomac Foundation

**Brauner, Dr. Marygail K.**  
RAND

**Campbell (USA, Ret.), LTG William H.**  
BAE Systems

**Clement, Dr. Stephen D.**  
Organizational Design, Inc.

**Clinton, Dr. Rankin A., Jr.,**  
Dynetics, Inc.

**Cosby, Mr. L. Neale**  
Baymont Associates

**Dickinson, Dr. Philip C.**  
Private Consultant

**Dobbs, Dr. Herbert H.**  
Torvec, Inc.

**Dodd, Mr. Robert**  
Science Applications International Corp.

**Douglas, Dr. Robert**  
DRS Surveillance and Reconnaissance Group

**Farr, Dr. John**  
Stevens Institute of Technology

**Finger, Mr. Milton**  
Lawrence Livermore National Laboratory

**Fisher, Dr. James Richard**  
DESE Research, Inc.

**Funk (USA, Ret.), LTG Paul E.**  
Institute for Advanced Technology

**Gawron, Dr. Valerie J.**  
General Dynamics

**Glaser, Mr. Gary**  
Private Consultant

**Gorman (USA, Ret.), GEN Paul F.**  
Cardinal Point, Inc.

**Grasso, Mr. Alfred**  
MITRE Corporation

**Greinke, Mr. Everett D.**  
Global Marketing & Development Solutions

**Gully, Mr. John H.**  
Science Applications International Corp.

**Hancock (USN, Ret.), VADM William J.**  
Hancock Associates, Inc.

**Hansen, Mr. William**  
Lockheed Martin Corporation

**Herrera, Mr. Gilbert V.**  
Sandia National Laboratories

**Isbell, Dr. William M.**  
ATA Associates

**James (USAF, Ret.), BG Avon**  
Robbins-Gioia Consulting

**Jones, Dr. Jeanette**  
Alabama A&M University

**Kelly, Dr. Donald A.**  
Jacobs Engineering Group, Inc.

**Kirby, Mr. Michael A.**  
Northrop Grumman Mission Systems

**Kohlberg, Dr. Ira**  
Kohlberg Associates, Inc.

**Kolb, Dr. Alan C.**  
ACK Associates

**Kornegay, Dr. Wade M.**  
Private Consultant

**Kornguth, Dr. Steven E.**  
Institute for Advanced Technologies

**Kovach, Mr. Kurt M.**  
Booz-Allen Hamilton

**Kuhn, Mr. Ira F., Jr.**  
Directed Technologies, Inc.

**Ladd, Mr. Richard**  
Robison International, Inc.

**Lupo, Dr. Jasper**  
Applied Research Associates

**Maddox (USA, Ret.), GEN David M.**  
DMM Consulting

**Matsumura, Mr. John M.**  
RAND

**Miller, Dr. Laura L.**  
RAND

**Montgomery, Dr. Richard A.**  
Private Consultant

**Moore, Mr. Robert A.**  
Defense Systems and Technology, Inc.

**Mulgaonkar, Dr. Prasanna G.**  
Intel Corporation

**Neal, Dr. William J.**  
MITRE

**Noah (USA, Ret.), LTG Max W.**  
Max Noah and Associates, Inc.

**Otstott (USA, Ret.), LTG Charles P.**  
Bellwether Research, Inc.

**Parker, Mr. Robert N.**  
Private Consultant

**Perna, Dr. Roberta-Diane J.**  
Private Consultant

**Ralph (USA, Ret.), BG James R., Jr.**  
Ralph Consulting LLC

**Rigby (USA, Ret.), LTG Randall L.**  
Sandia National Laboratories

**Santarelli, Mr. Joseph P.**  
Raytheon Company

**Schwartz, Mr. Alan R.**  
Private Consultant

**Singley, Mr. George T., III**  
Science Applications International Corp.

**Stanley-Mitchell, Dr. Elizabeth**  
Georgetown University

**Starr, Dr. Stuart H.**  
Barcroft Research Institute

**Starry (USA, Ret.), GEN Donn A.**  
Universal Voltronics, Inc.

**Swan, Dr. Peter A.**  
Southwest Analytic Network, Inc.

**Vehlow, Mr. Charles A.**  
Private Consultant

**Wartell, Dr. Michael A.**  
Indiana Univ.-Purdue Univ. Fort Wayne

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**Wishner, Dr. Richard A.**  
Private Consultant

**Woodard, Dr. Joan B.**  
Sandia National Laboratories

**Woodmansee (USA, Ret.), LTG John W.**  
Tactical and Rescue Gear, Ltd.

**Woteki, Dr. Thomas H.**  
Northrop Grumman Mission Systems

**Yeakel, Mr. William P.**  
ORSA Corporation



*Acting Army Science Board Chair*

**Dr. Frank H. Akers, Jr.**  
**Associate Laboratory Director**  
**National Security**  
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**EDUCATION:**

Ph.D., Duke University, 1975  
A.M., Duke University, 1975  
M.M.A.S., Operational Art, U.S. Army Command and General Staff College, 1976  
B.S., Engineering, U.S. Naval Academy, 1966  
Graduate, Strategy/Policy, U.S. Army War College, 1985  
Graduate, National Security, Industrial College of the Armed Forces, 1970  
Lockheed Martin Senior Leadership Institute, 1998  
Program for Senior Executives, University of Michigan, 1986  
Program for Senior Executives, Harvard, 1995

**FIELDS OF EXPERTISE:**

Technology Applications  
Operational Art  
Program Management  
C<sup>4</sup> Systems  
Leadership

**EXPERIENCE:**

Associate Laboratory Director, Oak Ridge National Laboratory, 2000-Present  
Vice President, Advanced Technologies, Lockheed Martin Energy Systems, 1999-2000  
Director, Advanced Technologies, Lockheed Martin Energy Systems, 1997-1999  
Director, National Security Operations, Lockheed Martin Energy Systems, 1996-1997  
United States Army (Brigadier General, Ret.), 1966-1996

**AWARDS / HONORS:**

Distinguished Service Medal  
Defense Superior Service Medal (2)  
Legion of Merit (3)  
Bronze Star (6)  
Purple Heart (2)

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**Army Science Board Vice Chair**

**Dr. Lawrence J. Delaney**  
Executive VP of Operations and  
President of Advanced Systems  
Development Sector  
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**EDUCATION:**

Ph.D., Chemical Engineering, University of Pennsylvania, 1961  
M.S., Chemical Engineering, Clarkson University, 1958  
B.S., Chemical Engineering, Clarkson University, 1957

**FIELDS OF EXPERTISE:**

Space and Missile Systems  
Propulsion Systems  
High Technology Acquisition  
Chemical Engineering  
Information Systems  
Environmental Technology  
Management  
Physical Chemistry

**EXPERIENCE:**

Titan Corporation, Executive Vice President of Operations and President of the Advanced Systems Development Sector, 2002-Present  
Areté Associates, Chairman of the Board, CEO and President, 2001-2002  
United States Air Force, 1999-2001, including  
Acting Under Secretary of the Air Force, July 2001  
Acting Secretary of the Air Force, January-June 2001  
Assistant Secretary of the Air Force for Acquisition and Chief Information Officer of the Air Force, 1999-2001  
Delaney Group, President, 1997-1999  
BDM International / BDM Europe (Berlin), Managing Director, 1994-1997  
Montgomery Associates, Managing Partner / Director, 1989-1994  
Science Applications International, Deputy Sector Manager and Manager Information Systems Group, 1981-1989

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

National Academies of Sciences Board on Army Science and Technology, Vice Chairman, 1992-1997  
National Academies of Science Air Force Science and Technology Board, Chairman, 2000-Present

**AWARDS / HONORS:**

Department of the Air Force Decoration for Exceptional Civilian Service, 2001  
Secretary of Defense Medal for Outstanding Public Service, 2001  
Department of the Army Outstanding Civilian Service Medal, 1989  
Army Scientific Advisory Panel, 1973-1977, Vice Chairman, 1976-1977  
Army Science Board, 1981-1988



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**EDUCATION:**

Ph.D., Physics, Princeton University, 1978  
B.S., Physics, with honors, California Institute of Technology, 1973

**FIELDS OF EXPERTISE:**

Physics  
Space Technology  
Microwaves  
Research and Development  
Magnetohydrodynamics  
Plasma Physics  
R&D Management

**EXPERIENCE:**

Boeing, Manager, 2003-Present  
Lawrence Livermore National Laboratory, Physicist, 1998-2003  
DARPA (as IPA from LLNL), Director, Tactical Technology Office, 2001-2002  
Deputy Director, Tactical Technology Office, 1998-2001  
Hughes Aircraft Company, Manager of Technical Laboratory, Electron Dynamics Division, 1991-1998  
Senior Scientist, Industrial Electronics Group, 1988-1991  
UCLA, Assistant Research Physicist and Adjunct Assistant Professor, 1978-1981

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Physical Society

**AWARDS / HONORS:**

Department of Defense Medal for Distinguished Public Service, 2003



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**Vice Chairman of the Board**  
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**Business Fax: (703) 414-5835**  
**E-Mail: bbeck@viisage.com**

**EDUCATION:**

Fellow, The Brookings Institution  
 M.S., Systems Management, University of Southern California  
 B.S., Chemistry, Arkansas State University

**FIELDS OF EXPERTISE:**

Advanced Identity Solutions for Law Enforcement  
 Systems Engineering  
 Technology Development/Privatization  
 Energy and Environment

**EXPERIENCE:**

Vice Chairman of the Board, Viisage, 2004-Present  
 Board of Directors, Bioinformatics at Virginia Tech, 2004-Present  
 Board of Directors, Cardinal Bank, 2000-Present  
 President and CEO, Trans Digital Technologies, 2000-2004  
 President and CEO, Thermo Digital Technologies, 1997-2000  
 President, Thermo Washington, Thermo Electron Corporation, 1996-2000  
 Corporate Vice President, Coleman Research Corporation, 1990-1996  
 CEO and President, Atlantic Systems Research & Engineering Corporation, 1984-1989

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Institute of Aeronautics & Astronautics  
 American Institute of Chemical Engineers  
 Armed Forces Communications and Electronics Association  
 American Nuclear Society  
 Association of the United States Army  
 American Defense Preparedness Association

**AWARDS / HONORS:**

Patents:  
 Data Fusion Workstation – Patent Number 5,321,613, June 14, 1994  
 Earth Penetrating Synthetic Image Radar – Patent Number 5,339,080, August 1, 1994  
 Integrated Apparatus for Mapping and Characterizing the Chemical Composition of Surfaces – Patent Number 5,416,321, May 16, 1995



**Dr. Jack R. Borsting**  
**Professor of Business Administration**  
**and Dean Emeritus**  
**University of Southern California**  
**Center for Telecommunications Mgmt.**  
**Marshall School of Business**  
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**EDUCATION:**

Ph.D., Mathematics/Statistics, University of Oregon, 1959  
 M.A., Mathematics, University of Oregon, 1952  
 B.A., Mathematics, Oregon State University, 1950

**FIELDS OF EXPERTISE:**

Cost Analysis	Defense Policy
Defense Budget Analysis	Force Structure
Statistics	Distance Education
Telecommunications	

**EXPERIENCE:**

University of Southern California, Professor of Business Administration and Dean Emeritus, 2001-Present  
 Center for Telecommunications Management, Executive Director and E. Morgan Stanley Professor of Business Administration, 1994-2001  
 Dean of the School of Business Administration, 1988-1994  
 University of Miami, Dean of the School of Business Administration, 1983-1988  
 Department of Defense, Assistant Secretary of Defense (Comptroller), 1980-1983  
 Naval Postgraduate School, Provost and Academic Dean, 1974-1980  
 Trustee, Institute for Defense Analyses, 1989-2003  
 Director, Northrop Grumman Corp., 1991-2001

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

International Federation of Operations Research Societies  
 Fellow of the Military Operations Research Society, Member and Past President  
 Fellow of the Operations Research Society of America, Member and Past President  
 Fellow of the American Association for the Advancement of Science  
 Electric Power Research Institute Advisory Council  
 Trustee: the Rose Hills Foundation  
 Fellow of the International Engineering Consortium

**AWARDS/HONORS:**

University of Oregon Alumni Fellow for career achievements, 2004  
 INFORMS Steinhardt Prize for Military Operations Research, 2000  
 Oregon State University Distinguished Service Award, 1982  
 Operations Research Society of America Kimball Medal for Distinguished Service to the Profession, 1982  
 Department of Defense Medal for Distinguished Public Service (2 awards), 1980, 1982  
 Military Operations Research Society Vance Wanner Award for Distinguished Service to the Profession, 1981





**Mr. Anthony J. Braddock**  
**President**  
**Loch Harbour Group, Inc.**  
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**Business Phone: (703) 642-2380**  
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**EDUCATION:**

M.S., Educational Psychology, George Washington University, 1975  
 B.S., Biology, Florida Southern College, 1962  
 U.S. Army Transportation, Ft. Eustis, 1968

**FIELDS OF EXPERTISE:**

Information Technology Management	Training
Logistics	Information Assurance, Security Acquisition
Transportation Systems	Technical Analysis
Strategic Planning	Organization and Business Process Improvement

**EXPERIENCE:**

Loch Harbour Group, Inc., President and Co-Founder, 1996-Present  
 BDM International, Director, Military Systems, 1977-1995  
 U.S. Army, 1963-1977  
   Deputy Program Manager, DoD Container Distribution System, U.S. Army Materiel Command, 1975-1977  
   Operation Officer, Secretary General Staff, Combat Development Command, 1970-1974  
   S-3 Terminal Commander, USARSUPTHAI, Thailand, 1969-1970  
   Transportation Officer, Cam Ranh Bay, Vietnam, 1966-1967  
   Various other US Army Assignments and Schools

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

National Defense Transportation Association  
 American Defense Preparedness Association

**AWARDS/HONORS**

Bronze Star  
 Meritorious Service Medal  
 Army Commendation Medal with two oak leaf clusters



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**Director**  
**The Potomac Foundation**  
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**Home Fax: (703) 370-0306**  
**Cell Phone: (703) 217-1744**  
**E-Mail: jvbtpf@aol.com**

**EDUCATION:**

Ph.D., Physics, Fordham University, 1958  
 M.S., Physics, Fordham University, 1952  
 B.S., Physics, St. Peter's College, 1951

**FIELDS OF EXPERTISE:**

Management  
 Studies and Assessments  
 Operational Experiments  
 Weapons of Mass Destruction

**EXPERIENCE:**

The Potomac Foundation, Director, 1988-Present  
 BDM International, Inc., Founder, and Past Member, 1959-1988  
   Board of Directors and various Corporate/Management positions, 1959-1993  
 Iona College, Assistant Professor of Physics, 1958-1960  
 Fordham University, Instructor in Physics, 1952-1958

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Defense Science Board  
 National Academies Board on Army Science and Technology  
 Association of the United States Army  
 National Advisory Security Panel (NASP), Sandia National Laboratories  
 American Physical Society  
 Institute of Electrical and Electronics Engineers

**AWARDS / HONORS:**

The Eugene G. Fubini Award, Secretary of Defense  
 Distinguished Service Award, Association of the United States Army  
 Exceptional Public Service Medal, Defense Nuclear Agency



**Dr. Marygail Brauner**  
**Senior Operations Research Analyst**  
**RAND**  
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 Business Fax: (310) 260-8145  
 E-Mail: marygail@rand.org

**EDUCATION:**

Ph.D., Engineering (Operations Research), UCLA, 1986  
 M.A., Mathematics, UCLA, 1970  
 B.A., Mathematics, UCLA, 1969

**FIELDS OF EXPERTISE:**

Mathematics  
 Mathematical Modeling  
 Operations Research  
 Military Logistics  
 Military Manpower

**EXPERIENCE:**

RAND, Operations Research Analyst, 1984-Present  
 California State University, Northridge, Professor of Management Science, 1981-1984  
 Ventura College, Mathematics Instructor, 1978-1981  
 Pierce College, Mathematics Instructor, 1975-1981  
 Van Nuys Adult School, Mathematics Instructor, 1972-1975

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

IFORMS, The Institute for Operations Research and Management Sciences



**LTG William H. Campbell (USA, Ret.)**  
**Vice President and General Manager,**  
**Communication and Information**  
**Systems**  
**BAE Systems**  
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 Business Phone: (703) 668-4182  
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 E-Mail:  
 william.h.campbell@baesystems.com

**EDUCATION:**

M.B.A., Automated Data Processing, Texas Technological University, 1970  
 B.S., Business Administration, St. Norbert College, 1962  
 U.S. Naval War College, 1983  
 U.S. Army Command and General Staff College, 1975

**FIELDS OF EXPERTISE:**

Combat Development  
 Intelligence Activities  
 Acquisition  
 Command and Control  
 Computer Software Systems  
 Tactical and Operational C3I  
 Information Assurance, Security

**EXPERIENCE:**

BAE Systems, Vice President and General Manager, Communication and Information Systems, 2002-Present  
 University of California, Associate Vice President and Chief Information Officer, 2000-2002  
 U.S. Army, 1962-2000, including:  
 Army CIO / Director of Information Systems for Communications, Command and Control and Computers (DISC4), 1997-2000  
 Program Executive Officer, Command, Control and Communications Systems, Ft. Monmouth, 1993-1997; Intelligence and Electronic Warfare, 1987-1992  
 Deputy to the Assistant Secretary of the Army for Research, Development and Acquisition, 1992-1993  
 Brigade Commander, Hawaii, 1985-1987; Battalion Commander, Korea, 1980-1982; Company Commander, Viet Nam, 1968-1969

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

Armed Forces Communications Electronics Association: Leadership Award, 1998; Scholarship Committee Chair, 1998, 1999; Symposium Speaker, 1987-2000; Advisor to Executive Committee and Board of Directors, 1997-2000  
 Association of the United States Army: Chair of Information Assurance and Battlefield Visualization Symposia, 1999, 2000; Speaker and Panel Member, 1987-2001  
 Electronic Defense Association: Chairman, 38<sup>th</sup> Annual AOC International Symposium and Convention  
 American Defense Preparedness Association

**AWARDS/HONORS**

U.S. Army Distinguished Service Medal (2); Intelligence Community Distinguished Service Medal; Legion of Merit (5); Bronze Star (2); Meritorious Service Medal (2); Army Commendation Medal(2); Army Achievement Medal; Republic of Korea Samil Medal



**Dr. Stephen D. Clement**  
**President**  
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**Business Fax: (830) 755-8291**  
**E-Mail: sclement@organizational.com**

**EDUCATION:**

Ph.D., Organizational Communications, Purdue University, 1974  
 M.S., Industrial Relations, Purdue University, 1971  
 B.S., Engineering, United States Military Academy at West Point, 1965

**FIELDS OF EXPERTISE:**

Management	Leadership
Leader Development and Training	Strategic Planning
Requirements Analysis	Human Resource Development
Talent Pool Management	Combat Development
Organizational Design and Re-engineering	Army Structure and Design

**EXPERIENCE:**

Organizational Design, Inc., President, (Consultant services provided to variety of Fortune 500 companies) 1985–Present  
 Office of the Secretary of the Army, Consultant, 2001–Present  
 U.S. Army, 1965–1985, retired at Colonel, including:  
 Office of the Vice Chief of Staff of the Army, Special Assistant for Leader Development Programs, 1981–1985  
 Office of the Deputy Chief of Staff for Personnel, Leadership and Organizational Consultant, 1978–1981  
 U.S. Army Human Resources Development Office, Chief, 1976–1978  
 U.S. Army Soldier Center, Organizational Effectiveness Program, Program Manager, 1974–1976  
 U.S. Military Academy, Leadership Department, 1971–1974

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Association of the United States Army

**AWARDS/HONORS:**

U.S. Army Meritorious Service Medal  
 Legion of Merit  
 Bronze Star with V  
 Air Medal  
 Army Commendation Medal



**Dr. Rankin A. Clinton, Jr.**  
**Consultant**  
**Dynetics, Inc.**  
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**Business Phone: (256) 508-8085**  
**Business Fax: (256) 922-9255**  
**E-Mail: randy.clinton@dynetics.com**

**EDUCATION:**

D. Sc., Systems Engineering, Southeastern Institute of Technology, 1979  
 B.S., Physics / Math, University of Southern Mississippi, 1956

**FIELDS OF EXPERTISE:**

Missiles	Missile Discrimination
Space Technology	Test and Evaluation
Defense Analyses	Physics
Intelligence Interpretation	Mission Analysis
Signals Intelligence	Weapons Systems
Air Defense	Automated Target Recognition

**EXPERIENCE:**

Dynetics, Inc., Consultant, 1985–Present  
 Clinton Systems, Consultant, 1985–Present  
 Army Intelligence Agency, Director, 1983–1985  
 Missiles and Space Intelligence Center, Director, 1983–1985  
 Missile Intelligence Agency, Deputy Director, 1975–1983  
 Missile Intelligence Agency, Technical Director, 1961–1975  
 Army Ballistic Missile Agency, Research Physicist, 1956–1961

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

AFSAB Panel on Space Surveillance, Asteroids and Comets, and Space Debris, 1997  
 ASB Panel on Prioritizing Army Space Needs, 1998  
 NSA Scientific Advisory Board  
 Technical Advisory Group, Senate Select Committee on Intelligence  
 Armed Forces Communications and Electronics Association  
 Association of the United States Army  
 National Military Intelligence Association  
 National Academies of Science Air Force Studies Board  
 U.S. CINC-Space Advisory Board, 1988–1993

**AWARDS/HONORS:**

National Intelligence Distinguished Service Medal, 1990  
 Military Intelligence Hall of Fame Inductee / Honoree, 1988  
 Meritorious Civilian Service Award  
 SES Merit Bonus (2)  
 Two Department of the Army Research and Development Awards



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**EDUCATION:**

M.S., Public Administration, Shippensburg University, 1974  
 M.S., International Affairs, George Washington University, 1968  
 B.S., Agricultural Economics, University of Kentucky, 1955  
 U.S. Army War College, International Security and Strategic Affairs, 1974  
 U.S. Naval War College, National Goals and Strategy, 1968

**FIELDS OF EXPERTISE:**

Learning Technology	Training Research and Development
Leadership Development	Performance Metrics
Human Behavioral Research and Development	Distributed Simulation
Battle Command and Control	

**EXPERIENCE:**

Baymont Associates, Consultant, 2004-Present  
 Institute for Defense Analyses, Director, Simulation Center, 1989-2004  
 Perceptronics, Inc., Vice President for Strategic Planning, Training and Simulation, 1985-1989  
 U.S. Army Research Institute for Behavioral and Social Sciences, Command, 1981-1985  
 U.S. Army Training and Doctrine Command, Training Developer, 1974-1981  
 U.S. Army, Various Command and Staff Positions, 1955-1971

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Defense Science Board  
 United States Capital Historical Society, Treasurer, 1968-Present  
 Society of the Honor Guard, Tomb of the Unknown Soldier  
 Distance Learning Training Technology Subcommittee  
 National Security Industrial Association, 1974-Present  
 American Defense Preparedness Association, 1985-Present  
 Military Testing Association, 1981-1985  
 Interservice / Industry Training Systems Conference, 1978-Present  
 World Computer Graphics Society, 1986-Present



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**EDUCATION:**

Ph.D.E.E., E.E./Math, University of Florida, 1966  
 M.S.E.E., E.E./Math, University of Florida, 1959 - 4.0 GPA  
 B.S.E.E., E.E., University of Maryland, 1957

**FIELDS OF EXPERTISE:**

Command, Control, Communications and Intelligence Processing  
 Operational Test and Evaluation  
 Environmental Monitoring  
 Modeling and Simulation

**EXPERIENCE:**

Consultant, 1994-Present  
 Director, Army Studies and Analysis, E-SYSTEMS, CAPA, 1987-1994  
 Acting Deputy Assistant Secretary of the Army - DASA(RP), OSA, 1986-1987  
 Technical Director, U.S. Army OTEA, 1981-1986  
 Director, BETA Joint Program Office, 1978-1981  
 Deputy Director, Battlefield Systems Integration, AMC, 1976-1977  
 Science Advisor, Headquarters MASSTER, U.S. Army TRADOC, 1970-1976  
 Consultant to MACV Science Advisor (MACSA), 1968  
 Electronic Technician, Electronic Engineering Supervisor, HDL AMC, 1950-1967, 1969

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Honorary, Phi Kappa Phi  
 Senior Member, ITEA  
 Senior Member, AIAA  
 Member, ADPA  
 Member, EIA

**AWARDS / HONORS:**

Harry Diamond Radio Research Fellowship, 1958-1963  
 Special Accomplishment Award for SEA, 1970  
 Outstanding Performance and QSI, 1972  
 Meritorious Civilian Service Award, from General William Depuy, Cmdr TRADOC, 1976  
 SES Performance of Excellence Awards, 1981, 1982, 1984  
 Exceptional Civilian Service Award, from John Marsh, Secretary of the Army, 1987



**Dr. Herbert H. Dobbs**  
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**EDUCATION:**

Army War College, 1977  
 C&GSC, 1972  
 Ph.D., Mechanical Engineering, University of Michigan, 1972  
 DWSMC, 1970  
 M.S., Mechanical Engineering, University of Michigan, 1961  
 B.M.E., M.E., University of Minnesota, 1954

**FIELDS OF EXPERTISE:**

Management of R&D Organizations	Systems Acquisition
Military Ground Vehicle Systems Design	Engines and Powertrains
Fluid Dynamics	Multi-phase Turbulent Fluid Flow
Weapon Systems Design	Guns, Missiles

**EXPERIENCE:**

Dobbs Associates, President, 1986-Present  
 TORVEC, Inc. (& Predecessors); Principal, 1986-Present; Chairman, 1998-2002  
 U.S. Army (SES); TACOM Technical Director, 1983-1985  
 U.S. Army, Soldier, 1957-1983  
 Aerojet General, Engineer, 1957; Polaris Missile Program  
 U.S. Army, Soldier, 1955-1957  
 Convair (now Lockheed), Engineer, 1954-1955; B-58 Program

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

AIAA; ASME; SAE; ROA; NSPE/MSPE; AAAS; SME; ADPA  
 Sigma Xi; AUVS; AUSA  
 Armor Association; Senior Executive Association

**AWARDS / HONORS:**

Legion of Merit  
 Bronze Star Medal  
 Meritorious Service Medal (2)  
 Joint Services Commendation Medal  
 MSPE Michigan Professional Engineer of the Year (Government Service), 1983  
 Michigan Society of Professional Engineers, President's Citation, 1989 & 1992  
 American Defense Preparedness Association Silver Medal, 1992  
 Sigma Xi, Science Honorary Society  
 MSPE Michigan Professional Engineer of the Year, 1995  
 Fellow, MSPE, 1996



**Mr. Robert G. Dodd**  
**Senior Principal Engineer**  
**Engineering and Analysis Operations**  
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**EDUCATION:**

Armed Forces Staff College, Norfolk, Virginia, 1988  
 M.S., Fluid Mechanics / Thermal Sciences, George Washington University, 1978  
 B.S., Aerospace Engineering, University of Alabama, 1971

**FIELDS OF EXPERTISE:**

Army Requirements	Aviation Technology & Operations
Strategic Planning	S&T Planning and Prioritization
Horizontal Technology Integration	Joint Concepts and Capabilities
Tactical Missile Technology	Robotics / Unmanned Systems

**EXPERIENCE:**

Science Applications International Corp., Senior Principal Engineer, Engineering and Analysis Operations, 2003-Present  
 Quality Research, Inc., Chief Scientist, Modeling, Simulations & Training, 2001-2003  
 U.S. Army Training and Doctrine Command, Senior Military Analyst, Battle Lab Integration and Technology, 1994-2001  
 Senior Operations Analyst, HQ TRADOC, Combined Arms Directorate; 1980-1994  
 Aerospace Engineer, U.S. Army Transportation Center and School, 1974 - 1980  
 Aerospace Engineer, Aviation Applied Technology Directorate. 1971 - 1974  
 Army Aviator, 1964 - 1971

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Association of the United States Army  
 Association of Unmanned Vehicles Systems International  
 American Helicopter Society  
 Army Aviation Association of America

**AWARDS / HONORS:**

Commander's Award for Civilian Service, 1988



**Dr. Robert E. Douglas**  
**Vice President**  
**Advanced Systems Analysis**  
**DRS**  
**Surveillance and Reconnaissance Group**  
**2330 Commerce Park Dr., N.E.**  
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**Business Phone: (321) 308-4809**  
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**E-Mail: rdouglas@drseosg.com**

**EDUCATION:**

Ph.D., Operations Analysis, University of Central Florida, 1993  
 M.S., Operations Analysis, U.S. Naval Postgraduate School, 1972  
 B.S., Military Engineering, U.S. Military Academy, 1962

**FIELDS OF EXPERTISE:**

Military Operations Analysis

**EXPERIENCE:**

DRS Surveillance and Reconnaissance Group, Vice President, Advanced Systems Analysis, 2001-Present  
 Lockheed Martin, Director, Systems Analysis, 1985-2001  
 Under SEC AF (SPACE SYSTEMS), Analysis Coordinator, 1980-1982  
 U.S. Army CDEC, Chief Computer Division, 1977-1980  
 JCS (SAGA), Analyst, 1973-1976

**AWARDS / HONORS:**

Advisory Board, Dean of Engineering, University of Central Florida  
 Chairman, Advisory Committee to University of Central Florida Industrial Engineering Dept.  
 Chairman, Science Advisory Committee, Valencia Community College  
 Phi Kappa Phi  
 Alpha Pi Mu



**Dr. John V. Farr**  
**Professor and Director**  
**Department of Systems Engineering**  
**and Engineering Management**  
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**EDUCATION:**

Ph.D., Civil Engineering, University of Michigan, 1986  
 Graduate Coursework in Mathematics, Engineering Mechanics and Systems Engineering, Mississippi State University, 1984-1992  
 M.S., Civil Engineering – Geotechnical, Purdue University, 1981  
 B.S., Civil Engineering – Structural, Mississippi State University, 1979  
 A.A.S., Drafting and Design Technology, Hinds Junior College, 1975  
 U.S. Army Command and General Staff College, 1989-1991

**FIELDS OF EXPERTISE:**

Data Analysis	Data Mining
System Design and Development	System Effectiveness
Management	Research and Development
R&D Management	Modeling and Simulation

**EXPERIENCE:**

Farr Engineering and Management Consulting, Principal, 1998-Present  
 Stevens Institute of Technology, Professor and Department Director, Systems Engineering and Engineering Management, 2000-Present  
 U.S. Military Academy at West Point, 1992-2000, including Professor / Associate Professor / Director of Engineering Management Program, 1997-2000  
 Associate Professor, 1994-1997; Assistant Professor, 1992-1994  
 U.S. Army Engineer Research and Development Center, 1983-1992, including Combat Engineering and Simulations Group, Team Leader, 1988-1992  
 Geomechanics Division, Research Civil Engineer, 1984-1988  
 Civil Engineer, 1983-1984

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Registered Civil Engineer in New York, Mississippi  
 International Council on Systems Engineering; American Society for Engineering Education; American Society for Engineering Management (ASEM), Fellow;  
 Military Operations Research Society; American Society of Civil Engineers, Fellow  
 International Society of Logistics (SOLE), Member Board of Advisors (since 2002)

**AWARDS / HONORS:**

Founding Member Epsilon Mu Eta (honorary Engineering Management), 2002  
 Meritorious Civilian Service Award, 2000; Superior Civilian Service Award, 1997  
 Phi Kappa Phi (national honor society), U. S. Military Academy, 1994  
 President of Chi Epsilon Fraternity (honorary Civil Engineering), Mississippi State University, 1979; Chi Epsilon, Mississippi State University, 1978



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**Senior Scientist**  
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**EDUCATION:**

B.S., Chemistry, University of California Berkeley, 1957

**FIELDS OF EXPERTISE:**

Advanced Conventional Weapons	Anti-Terrorism & High-Tech
Leadership	Low Intensity Conflict
Munitions	National Security
Research & Development	

**EXPERIENCE:**

Lawrence Livermore National Laboratory, 1957-2002, including:  
 Deputy Director, DoD Programs Office, 1996-2002  
 Deputy Associate Director, Defense Technology Applications Program, 1989-1996  
 Assistant Deputy Associate Director, Advanced Conventional Ordnance, 1988-1989  
 Division Leader, Chemical Sciences, 1987-1988  
 High Explosives Technology Leader, 1983-1987  
 Section Leader, Detonation Science, 1982-1983  
 Deputy Program Leader, Non Nuclear Ordnance, 1978-1982  
 Project Director, Safe High Energy Explosives, 1975-1978  
 Group Leader, Explosives Performance, 1970-1975  
 Staff Chemist, Chemistry and Materials Science, 1957-1970

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Defense Science Board  
 American Defense Preparedness Association Executive Committee, Insensitive Munitions  
 Division  
 U.S.A.F. Scientific Advisory Board  
 Board of Reviewers for the Director of Defense Research & Engineering  
 Future Combat Systems Grey Beard Panels  
 National Academies of Science Board on Science and Technology for International  
 Development  
 Chief of Naval Operations Strategic Studies Group  
 Technical Area Review and Assessment (TARA)

**AWARDS / HONORS:**

Air Force Decoration for Exceptional Civilian Service  
 U.S. Army Award for Patriotic Service



**Dr. James Richard Fisher**  
**Vice President and Chief Scientist**  
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**jfisher@knology.net**

**EDUCATION:**

Ph.D., Electrical Engineering, University of California at Los Angeles, 1966  
 M.S., Electrical Engineering, University of California at Los Angeles, 1959  
 B.E.E., (Highest Honors) Electrical Engineering, Georgia Institute of Technology, 1957

**FIELDS OF EXPERTISE:**

Technology Development and Acquisition  
 Space and Missile Defense Systems  
 Radar/IR Sensors  
 Signal Processing

**EXPERIENCE:**

DESE Research, Inc., Vice President and Chief Scientist, 1999-Present  
 Army Space and Missile Defense Command:  
 Executive Director, Missile Defense and Space Technology Center (SES), 1995-1999  
 Director, Sensors Directorate, 1987-1994  
 SMDC Command Technical Director, 1985-1986  
 Director of Innovative Technology, 1975-1984  
 Program Manager, BMD Site Defense Radar System, 1971-1974  
 Teledyne Brown Engineering, Radar Department Manager, 1968-1971  
 Texas Instruments, Avionics and Anti-Submarine Warfare, Senior Project Engineer,  
 1966-1968  
 Hughes Aircraft Company, Airborne Radar Controlled Weapons Systems,  
 Staff Engineer, 1957-1966

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Ballistic Missile Defense Advisory Committee  
 Ballistic Missile Defense Science and Engineering Group  
 National Missile Defense Senior Independent Assessment Team

**AWARDS / HONORS:**

Secretary of the Army Decoration for Exceptional Civilian Service, 1998  
 Meritorious Presidential Rank Awards, 1993, 1998  
 National Space Club Astronautics Engineer Award, 1997



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**Director**  
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**EDUCATION:**

U.S. Army War College, Carlisle Barracks, 1980  
 Armed Forces Staff College, 1975  
 Ed.D., Education/Training, Montana State University, 1973  
 M.S., Psychological Counseling, Montana State University, 1972  
 Rotary Wing Aviator Course, USA Aviation School, 1969  
 Armor Officer Advanced Course, USA Armor Center, Ft. Knox, 1968  
 Armor Officer Basic Course, USA Armor Center, Ft. Knox, 1962

**FIELDS OF EXPERTISE:**

Training  
 Operations

**EXPERIENCE:**

University of Texas Institute for Advanced Technology, Associate Director, Education and Technology Applications Division, 2001-Present  
 General Dynamics Land Systems, Vice President, Customer Service and Support, 2001  
 United States Army, 1962-1995, including command of units from platoon through corps  
 Commander, U.S. Army Armor Center, 1992-1993  
 Commanded 3<sup>rd</sup> Armored Division in Operation Desert Storm, 1990-1991  
 Commander, National Training Center, 1988-1989  
 Commander, Troop A, 1st Squadron (Airmobile), 9th Cavalry, 1st Cavalry Division (Airmobile), Vietnam

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Association of the United States Army

**AWARDS / HONORS:**

Distinguished Service Medal  
 Defense Superior Service Medal  
 Legion of Merit (w/two Oak Leaf Clusters)  
 Distinguished Flying Cross  
 Bronze Star Medal (w/two Oak Leaf Clusters)  
 Meritorious Service Medal (w/ three Oak Leaf Clusters)  
 Air Medal with "V" device (twenty-five Oak Leaf Clusters)  
 Army Commendation with "V" device (three Oak Leaf Clusters)  
 Kuwait Liberation Medal  
 Saudi Service Medal (with three bronze stars)  
 Army Aviator Badge, Joint Chiefs of Staff ID Badge



**Dr. Valerie J. Gawron**  
**Fellow**  
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**EDUCATION:**

M.B.A., Business Administration, State University of New York at Buffalo, 1988  
 M.S., Industrial Engineering, State University of New York at Buffalo, 1988  
 Postdoctoral Research, New Mexico State University, 1980  
 Ph.D., Engineering Psychology, University of Illinois, 1980  
 M.A., Psychology, State University College at Geneseo, 1977  
 B.A., Psychology, State University College at Buffalo, 1975

**FIELDS OF EXPERTISE:**

Computer Aided Engineering	Controls and Displays
Environmental Stressors	Human Factors
Human Performance Measurement,	Simulation
Situational Awareness	Test and Evaluation
Training	Unmanned Aerial Vehicles
Workload	

**EXPERIENCE:**

General Dynamics / Veridian / Calspan, Fellow, 1980 -present  
 New Mexico State University, Postdoctoral Fellow, 1979-1980  
 University of Illinois, Research Assistant, 1977-1979  
 State University College at Geneseo, Research Assistant, 1976-1977

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Association of Aviation Psychologists, 1978-Present  
 Government Electronics and Information Technology Association 2000-Present  
 Human Factors and Ergonomics Society, 1978-Present  
 Intelligent Transportation Systems of America, Safety and Human Factors Committee, 1997-Present  
 National Aeronautics and Space Administration, Space Human Factors Science and Technology Working Group, 2000-Present  
 United States Air Force Scientific Advisory Board 1996-2000  
 Who's Who Registry of Professionals and Executives 1997-2000

**AWARDS / HONORS:**

Associate Fellow, American Institute of Aeronautics and Astronautics 1992  
 Decoration for Exceptional Civilian Service, 2000  
 Fellow, Human Factors and Ergonomics Society 1996  
 Flyer Fossil Award, Human Factors and Ergonomics Society Aerospace Systems Technical Group 1996, 1998  
 International Woman of the Year 1992/93  
 Sigma Xi Best Paper 1985, 1987, 1989, 1995, 1996





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**11609 Twining Lane**  
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**E-mail: gnlglaser@email.msn.com**

**EDUCATION:**

M.B.A., Fordham University, 1974  
 M.S., Physics, Northeastern University, 1963  
 B.S., Physics, City College of New York, 1961

**FIELDS OF EXPERTISE:**

Strategic and Tactical Surveillance  
 Technical Intelligence  
 Electro-Optic and Infrared Systems  
 Advanced System Concepts  
 Business Development  
 Marketing  
 Support to Military Operations  
 Sensors

**EXPERIENCE:**

Private Consultant, 1996-Present  
 Titan Corporation, Senior Vice President and General Manager, 1992-1996  
 General Research Corporation, Group Director, Special Projects Operations, 1991-1992  
 Private Consultant, 1988-1991  
 Analytic Decisions, Inc., President and Founder, 1976-1988  
 Riverside Research Institute, Manager, Advanced Technologies Group, 1967-1976  
 Airborne Instruments Laboratories, Systems Analyst, 1963-1966

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

DIA Advisory Board  
 Army Science Board



**GEN Paul F. Gorman(USA, Ret.)**  
**President**  
**Cardinal Point, Inc.**  
**9175 Batesville Road**  
**Afton, VA 22920**  
**Business Phone: (540) 456-6366**  
**Business Fax: (540) 456-8442**  
**E-mail: cpdinal@direcway.com**

**EDUCATION:**

National War College, 1966  
 U.S. Army Command and General Staff College, 1962  
 U.S. Marine Corps Schools, Junior Course, 1957  
 M.P.A., Public Administration, Harvard University, 1954  
 B.S., Military Science, U.S. Military Academy at West Point, 1950

**FIELDS OF EXPERTISE:**

Military Theory	Intelligence Interpretation
Signals Intelligence	Simulation
Tactical and Operational C3I	Tactical Warfare
Training and Training Systems	Tele-Medicine

**EXPERIENCE:**

Cardinal Point, Inc., Co-Founder and President, 1986-Present  
 Consultant to the Institute for Defense Analysis, 1990-2004  
 National Institute of Justice, Consultant, 1993-1999  
 University of Virginia, Visiting Professor of Computer Science, 1992-1998  
 Burdeshaw Associates, Ltd., Vice President, 1985-1986  
 U.S. Army, Commissioned 1950-1985 including:  
 Commander in Chief, U.S. Southern Command, 1983-1985  
 Assistant to the Chairman of the Joint Chiefs of Staff, 1981-1983  
 Director for Plans and Policy (J-5), Organization of the Joint Chiefs of Staff, 1980-1981  
 Commander, 1<sup>st</sup> Brigade, 101<sup>st</sup> Airborne Division, Vietnam, 1970-1971  
 Commander, 1<sup>st</sup> Battalion, 26<sup>th</sup> Infantry, Vietnam, 1966-1967  
 U.S.M.A., Assistant Professor of Far Eastern History, 1954-1957  
 Commanded Combat Infantry Units, Korea, 1952-1953  
 U.S. Navy, Enlisted, 1945-1946

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Future Combat Systems Senior Advisory Group; MITRE Army Advisory Board  
 Senior Advisory Board, Information Exchange Office, DARPA  
 President's Blue Ribbon Commission on Defense Management, 1985-1986  
 President's Commission on Organized Crime, 1985-1986

**AWARDS / HONORS:**

CIA Sherman Kent Award for Distinguished Writing, 2 instances  
 U.S. Army Infantry Center Doughboy Award, 2001  
 Distinguished Service Cross; Defense Distinguished Service Medal;  
 U.S. Army Distinguished Service Medal; Silver Star; Legion of Merit  
 Distinguished Flying Cross; Bronze Star for Valor; Purple Heart  
 National Intelligence Distinguished Service Medal



**Mr. Alfred Grasso**  
**Senior Vice President and Director**  
**DoD C3I Federally Funded Research**  
**and Development Center**  
**The MITRE Corporation**  
**7515 Colshire Drive**  
**McLean, VA 22102-7508**  
**Business Phone: (703) 983-6138**  
**Business Fax: (703) 983-7395**  
**E-mail: ag@mitre.org**

**EDUCATION:**

Program for Management Development, Harvard Business School, 1998  
 M.S., Computer Science, Worcester Polytechnic Institute, 1993  
 B.S., Electrical Engineering, University of Massachusetts, 1980

**FIELDS OF EXPERTISE:**

Engineering Education	C3I
Command and Control	Communications
Information Systems	Electrical Engineering
R&D Management	Simulation

**EXPERIENCE:**

The MITRE Corporation 1986-Present, including  
 Senior Vice President and Director, DOD C3I FFRDC, 2004-Present  
 Washington C3I Center, Vice President and General Manager, 2001-2004  
 Vice President and CIO, 1999-2001  
 Technical Director, Battlefield Systems Division, 1996-1999  
 Associate Technical Director, Battlefield Systems Division, 1994-1996  
 Department Head, Command, Control and Systems Integration, 1992-1994  
 Associate Department Head, Advanced Systems and Technology, 1991-1992  
 Systems Engineer, Tactical Communications System, 1986-1991  
 ARINC Research Corporation, VHSIC Systems Analyst, 1984-1986  
 Westinghouse Electric Corporation, Research Staff, 1980-1984

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

AFCEA Board of Officers, Executive Committee  
 AUSA Member  
 Smith College Engineering Advisory Board

**AWARDS / HONORS:**

IDGA NetCentric Warfare Award, 2005  
 AFCEA Golden Links Award, 2004  
 Distinguished Speaker, DoD Secure E-Business Summit, 2002  
 CIO 100 Honoree, CIO Magazine / CIO.com, 2001



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**Vice President**  
**Global Marketing & Development**  
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**EDUCATION:**

post-M.S. studies, University of Wisconsin, George Washington University  
 M.S. Chemistry, Northern Illinois University, 1956  
 B.S. Chemistry/Education, Northern Illinois University, 1951

**FIELDS OF EXPERTISE:**

International Cooperation	Intelligence	C4ISR
NATO	International Issues and Policy	

**EXPERIENCE:**

Global Marketing and Development Solutions, Inc., Vice President, 1996-Present  
 International Planning and Analysis Center (IPAC), Vice President, 1993-1996  
 International Partnerships Group, Vice President, 1989-1993  
 Department of Defense, Deputy Undersecretary of Defense for International Programs and Technology, 1986-1988  
 NATO, Supreme Allied Commander Europe, Scientific Advisor, 1982-1986  
 Office of the Director, Defense Research and Engineering: Acting Deputy Under Secretary of Defense for International Programs and Technology, 1982  
 Director, NATO/European Affairs, Office of International Programs and Technology, 1980-1982  
 Assistant Director and later Director, Combat Support, 1976-1980  
 Sr. Specialist for Tactical C2, Office of the Assistant Director (Combat Support), 1973-1976  
 Sr. Specialist for Reconnaissance Matters, Office of the Assistant Director (Electronic Warfare and Reconnaissance), 1967-1973  
 Bureau of Aeronautics, Bureau of Naval Weapons, Office of the Deputy Chief of Naval Operations for Development, 1956-1967

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

National Defense Industrial Association  
 Naval Intelligence Professionals  
 Consultant, Defense Science Board

**AWARDS / HONORS**

Secretary of Defense Award for Outstanding Public Service, 1987  
 Distinguished Alumni Award, Northern Illinois University, 1987  
 Defense Distinguished Service Medal, 1982, 1986, 1988  
 Defense Meritorious Service Medal, 1981  
 U.S. Government Outstanding Performance Awards, 9 instances



**Mr. John H. Gully**  
**Senior Vice President and General  
 Manager**  
**Tactical Systems and Solutions**  
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**EDUCATION:**

B.S., Mechanical Engineering, University of Texas, 1976

**FIELDS OF EXPERTISE:**

Advanced Weapons	Composite Materials
Electrical Engineering	Ground Vehicle Survivability
Mechanical Engineering	Program Management
Robotics	Electric Power

**EXPERIENCE:**

Science Applications International Corporation, Defense Technology Group,  
 Senior Vice President and General Manager, Tactical Systems and Solutions Business  
 Unit, 1998- Present  
 DARPA, Tactical Technology Office, Deputy Director, 1994-1998  
 University of Texas at Austin:  
 Center of Electromechanics Director, 1993-1998  
 Deputy Director, 1985-1993  
 Associate Technical Director, Research Engineer, 1976-1985

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Society of Mechanical Engineers  
 Army Science Board  
 Tau Beta Pi Engineering Honor Society

**AWARDS / HONORS**

IR 100 Award for Compact Homopolar Generator  
 Awarded Ten Patents with one additional Pending  
 Author / Co-Author of over 60 technical publications



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**Independent Consultant**  
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**EDUCATION:**

M.S., Operations Research / Systems Analysis, U.S. Naval Postgraduate School, 1972  
 B.S., Engineering, U.S. Naval Academy, 1965

**FIELDS OF EXPERTISE:**

Logistics	DoD Planning, Programming and Budgeting
Infrastructure	Operations Research
Defense Analysis	Feasibility Studies
Leadership	Systems Analysis

**EXPERIENCE:**

Hancock Associates, Vice President, 1998-Present  
 U.S. Navy:  
 Deputy Chief of Naval Operations for Logistics, 1996-1998  
 Director, Department of the Navy Budgets Office, 1994-1996  
 Commander, Aircraft Carrier Battle Group, 1992-1994  
 Director, Operations Division, Office of Budget and Reports, 1990-1992  
 Commander, Guided Missile Cruiser, 1987-1989  
 Commander, Guided Missile Destroyer, 1981-1983  
 Officer in Charge, Fast Patrol Craft, 1966-1967

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Defense Science Board Task Force on Logistics Transformation  
 Naval Research Advisory Committee Task Force, Seabasing Study



**Mr. William W. Hansen**  
**Vice President, Direct Combat,**  
**Missile Defense and Strike Weapons**  
**Lockheed Martin Washington Operations**  
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**Suite 300**  
**Arlington, VA 22202-4132**  
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**EDUCATION:**

M.S., Education, University of Utah  
 Graduate Certificate, International Relations, University of Utah  
 B.S., History, University of Utah  
 Graduate, Army War College  
 Distinguished Graduate, Naval Command and Staff College

**FIELDS OF EXPERTISE:**

Management	Information Systems & Services
Marketing	Acquisition
Strategic Planning	Operational Doctrine

**EXPERIENCE:**

Lockheed-Martin, Vice President, Direct Combat, Missile Defense and Strike Weapons  
 Ford Aerospace Corporation, Manager, Analysis and Advanced Requirements  
 U.S. Army, including:  
 Charter Member, Chief of Staff's Army Assessment and Initiative Group (CAIG)  
 Chief, Army Studies Group  
 Commander, 1<sup>st</sup> Squadron, 10<sup>th</sup> Cavalry  
 Division Chief of Staff, 4<sup>th</sup> Infantry Division  
 Command and Staff positions, including combat experience,  
 11<sup>th</sup> Armored Cavalry Regiment

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Member, Board of Directors, National Defense University  
 Fellow, MIT Seminar XXI, International Affairs and National Policy  
 Fellow, Inter-University Seminar, Armed Forces and Society

**AWARDS / HONORS:**

Distinguished Knight of the Order of St. George, U.S. Army Armor Association  
 J. William Middendorf Award for Outstanding Research  
 Silver Star (2)  
 Legion of Merit (2)  
 Purple Heart  
 Vietnamese Cross of Gallantry with Gold Star



**Mr. Gilbert V. Herrera**  
**Director, Manufacturing Science and**  
**Technology**  
**Sandia National Laboratories**  
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**EDUCATION:**

M.S., Electrical Engineering, University of California, Berkeley, 1982  
 B.S., Electrical Engineering, University of New Mexico, 1981  
 United States Military Academy, West Point, NY, 1977-1979

**FIELDS OF EXPERTISE:**

Semiconductor Devices, Manufacturing and Materials  
 Radiation Hardened Microelectronics  
 Microsystems Technologies  
 Electronic Packaging  
 Physical Security/Force Protection Systems  
 Nuclear Weapon Technologies  
 Defense Manufacturing

**EXPERIENCE:**

Sandia National Laboratories, 1981-Present  
 Various management and staff positions, primarily in semiconductor and materials  
 research and nuclear weapon components  
 SEMI/SEMATECH, Chief Operating Officer, 1997-1999 (on leave from Sandia)  
 The White House Office of Science and Technology Policy, 1991-1992, (on leave from  
 Sandia as an AAAS/Sloan Fellow)  
 Adjunct Professor of Electrical Engineering, University of New Mexico, 1983-1984

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Tau Beta Pi (Engineering Honor Society)  
 Eta Kappa Nu (Electrical and Computing Engineering Honor Society)  
 Kappa Mu Epsilon (Mathematics Honor Society)  
 American Association for the Advancement of Science  
 Institute for Electronics and Electrical Engineering  
 Material Research Society  
 Society of Manufacturing Engineers  
 Association of the United States Army

**AWARDS / HONORS:**

Citation for Patriotic Civilian Service, Secretary of the Army  
 AAAS/Sloan White House Science and Engineering Fellow, 1991-1992  
 Fellow, American Center for International Leadership (ACIL)  
 Fellow, Institute for Advanced Technology, University of Texas  
 Albuquerque Tribune 1989 Rising Star in Engineering



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**President**  
**ATA Associates**  
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**EDUCATION:**

Ph.D., Engineering / Physics, Tohoku University, 1994  
 B.A., Physics, University of California at Berkeley, 1957

**FIELDS OF EXPERTISE:**

Weapon Systems Analysis  
 Ballistic Missile Defense  
 Kinetic Energy Weapon Lethality  
 Shock Wave Physics  
 Optics  
 Testing and Evaluation  
 Non-Lethal Weapons  
 Advanced Munitions and Armor  
 Advanced Gun Technologies  
 Laser and Nuclear Energy Lethality  
 Materials Science  
 Strategic Defense Initiative  
 Anti-Terrorism & High-Tech Solutions

**EXPERIENCE:**

Army Science Board Consultant, Member Nominee, 2001-2004  
 ASB Member, 2004-Present  
 ATA Associates, President and Owner, 1976-Present  
 XonTech, Inc., National Missile Defense Consultant to Boeing, 1998-2002  
 General Research Corporation, Principal Scientist, Systems Test and Evaluation, 1976-2002  
 Lawrence Livermore National Laboratory, Group Leader and Senior Scientist, H-Division, 1971-1976  
 General Motors Corporation, Department Head, Materials and Structures Laboratory, GM Technical Center, 1964-1971  
 Stanford Research Institute, Research Physicist, Poulter Laboratories, 1960-1964  
 United States Air Force, Captain, Kume Shima Air Station, 1957-1960

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Institute of Aeronautics and Astronautics (AIAA)  
 Aeroballistic Range Association  
 Electric Launcher Association  
 University of California and Santa Barbara H.S. Alumni Bands  
 American Physical Society  
 Association of the United States Army  
 National Defense Institute of America

**AWARDS / HONORS:**

Member, AIAA Technical Committee on Weapons Systems Effectiveness  
 Founding President and Inaugural Fellow, Electric Launcher Society  
 Founding Board of Directors: HyperVelocity Impact Society  
 Elected Fellow: Aeroballistic Range Association  
 Senior Research Fellow: University of Texas  
 Over 150 publications and reports in technical defense related fields  
 Book Author: Shock Waves: Measuring the Dynamic Properties of Materials, Published by Imperial College Press, January, 2005



**BG Avon C. James (U.S. Air Force)**  
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**E-Mail: avon.james@r...**

**EDUCATION:**

A.B., History / Political Science, Morgan State University, 1951  
 Industrial College of the Armed Forces, National Defense University, 1951  
 Squadron Officer School, Air University, 1961  
 USAF Command and Control System Programming and Systems Analysis Command  
 Various information technology and executive management courses

**FIELDS OF EXPERTISE:**

Computer Software Systems  
 Command and Control  
 Strategic Planning  
 Computer Data  
 Information Systems

**EXPERIENCE:**

Robbins-Gioia, Inc., 1997-2005, including:  
 President, 1999-2005  
 Chief Operating Officer, 1998-1999  
 Executive Vice President for Government Operations, 1997-1998  
 Independent Consultant, 1987-1996  
 Input-Output Computer Services, Inc., Vice President, Federal Systems, 1986-1987  
 U.S. Air Force, 1951-1983, including  
 Director of Computer Resources, HQ USAF, 1980-1983  
 Deputy Commander, Air Force Communications Command, 1978-1980  
 Chief of Staff, Electronic Systems Division, 1972-1978  
 Command and Control Systems Programmer / Analyst, 1967-1972  
 Personnel Systems Analyst, 1957-1967  
 Enlisted, Air Weather Service, 1951-1953; Commissioned 1953

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Air Force Association  
 Armed Forces Communications Electronics Association, Former Association  
 International and former member of the Board of Directors, Washington  
 Air Force C4 Association, Member and former President  
 External Board of Advisors, School of Engineering, Morgan State University  
 External Board of Advisors, Computer Science Department, Jackson State University

**AWARDS / HONORS:**

Distinguished Service Medal  
 Legion of Merit with oak leaf cluster  
 Air Force Meritorious Service Medal  
 Air Force Commendation Medal with oak leaf cluster  
 Air Force Organizational Medal



**Dr. Jeanette Jones**  
**Professor and Director**  
**Center for Biomedical, Behavioral**  
**and Environmental Health**  
**Research**  
**Faculty Senate President and Member**  
**University Board of Trustees**  
**Alabama A&M University**  
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**EDUCATION:**

Ph.D., Botany / Microbiology; Medical Mycology, Ohio State University, 1976  
 M.S., Botany / Microbiology; Medical Mycology, Ohio State University, 1973  
 B.S., Biology / Education, Fort Valley State University, 1972

**FIELDS OF EXPERTISE:**

Biology	Botany (Anatomy, Taxonomy, Phylogeny)
Environment & Environmental Restoration	Medical Mycology / Microbiology
R&D Management	Morphology / Fungal Pathogens
Education	
Environmental Technology & Waste Management	

**EXPERIENCE:**

Alabama A&M University, 1976-Present, including:  
 Vice President for Research & Development, 1991-1996;  
 Executive Director, University Business Industry Cluster, 1994-1996  
 Executive Director, University Foundation, 1994-1996  
 Associate Vice President for Research & Development, 1990  
 Assistant Vice President for Research & Development, 1989  
 Extramural Associate, The National Institutes of Health, 1988  
 Professor of Biology, 1986-Present  
 Associate Professor of Biology, 1979-1985  
 Assistant Professor of Biology, 1976-1978  
 Member, Graduate Faculty, 1976-Present  
 Army Science Board Member, 1992-1998  
 National Science Foundation, Committee of Visitors  
 Florida A&M University, College of Pharmacy and Pharmaceutical Sciences, Adjunct  
 Professor, 1985-1986  
 Ohio State University, Dissertation Year Fellow, 1975-1976;  
 Graduate Teaching Associate, 1973-1975  
 University Fellow, 1972-1973

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Mycological Society of America; American Association for the Advancement of Science  
 Institute of Food Technologists; International Society of Aerobiology  
 Sigma Xi Scientific Research Society  
 Beta Kappa Chi Biological Honor Society

**AWARDS / HONORS:**

Distinguished Service Award, Alabama A&M Faculty Senate  
 Leadership Alabama, 1990; Leadership Huntsville 2000 Program, 1987  
 Significant Service Award, NASA Space Life Sciences Training Program, 1985  
 Distinguished Service Award, Beta Beta Beta National Biological Honor Society, 1980



**Dr. Donald A. Kelly**  
**Division Technical Manager**  
**Jacobs Sverdrup**  
**Engineering and Science Contract**  
**Group**  
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**EDUCATION:**

Ph.D., Electrical Engineering, Colorado State University, 1990  
 M.S., Electrical Engineering, University of Colorado, 1985  
 B.S., Electrical Engineering, U.S. Military Academy, 1979

**FIELDS OF EXPERTISE:**

Commercial Wireless Technologies  
 C3I  
 Feasibility Studies  
 Imaging and Targeting Technology  
 Simulation  
 Space  
 Strategic Space Surveillance  
 System Design  
 Technology Assessment

**EXPERIENCE:**

Jacobs Sverdrup, Division Technical Manager, 2004-Present  
 Austin Information Systems, Strategic Technologist, 2004  
 Time Domain Corporation, CTO and Senior Technologist, 1999-2004  
 AdvanTECH Consulting, President, 1996-2000  
 Sverdrup Technology, Associate Principal Engineer, 1992-1996  
 U.S. Air Force Reserve, 1988-2001 (Retired)  
 Hughes Aircraft, Staff Engineer, 1986-1992  
 U.S. Air Force, Space and Satellite Systems, Satellite Systems Engineer, 1982-1986  
 U.S. Army, 1979-1982

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

IEEE  
 AIAA  
 NDIA  
 ROA



**Mr. Michael A. Kirby**  
**Sector Director**  
**Business Development Resources & Integration**  
**Northrop Grumman Mission Systems**  
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**EDUCATION:**

M.S., National Security, National War College, 1994  
 M.B.A., Business, Harvard Business School, 1984  
 B.S., Engineering, U.S. Military Academy, 1974

**FIELDS OF EXPERTISE:**

Combat Development	Command and Control
Economics	Defense Analysis
Joint Operations	Joint Planning
Management	Military Operations Research

**EXPERIENCE:**

Northrop Grumman Mission Systems, Director, Business Development, Integration and Resources, 2002-Present  
 TRW Systems, Director, Business Development, 1997-2002  
 BDM Federal Systems, Vice President of Business Development, 1996-1997  
 U.S. Army, 1974-1995, including:  
 Executive Assistant to the Chief of Staff, 1985-1989  
 JCS Staff, 1994-1995



**Dr. Ira Kohlberg**  
**President**  
**Kohlberg Associates, Inc.**  
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**Business Fax: (703) 931-7792**  
**E-Mail: ikohlber@ida.org**

**EDUCATION:**

Ph.D., Physics, Boston University, 1966  
 M.S., Physics, University of Pittsburgh, 1960; Joint Westinghouse – University of Pittsburgh Fellowship in Physics, 1958-1961  
 B.S., Electrical Engineering, City University of New York, 1956

**FIELDS OF EXPERTISE:**

Electromagnetic Theory	Ground Penetrating Radar
Radio Science & Communications Systems	High Power Microwaves
Radar and Acoustic Detection	Fluid Mechanics & Shock Waves
Systems Analysis	Mathematical Modeling

**EXPERIENCE:**

Kohlberg Associates, President, 1985-Present  
 Institute for Defense Analyses, Adjunct Research Staff Member, 1986-Present  
 Center for Naval Analyses, Adjunct Research Staff Member, 1997-Present  
 GTE, Senior Technical and Management Positions, 1977-1986, including:  
 Technical Director, Government Programs, GTE Laboratories  
 Technical Director, Forward Acquisition System C<sup>3</sup>, Strategic Systems Division  
 Senior Staff, Strategic Systems Division  
 Manager, Radio Sciences, Strategic Systems Division  
 Energy Electromagnetics, Consultant / Owner, 1975-1977

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Reviewer for IEEE Transactions on Electrical Insulation  
 Reviewer for Electromagnetics Journal  
 Institute Fellow, Energy Systems Institute, State University of New York at Buffalo  
 Member, IEEE Technical Committee on Electromagnetic Compatibility  
 Senior Member, AIAA  
 Member, AIAA Technical Committee on Weapon System Effectiveness  
 Chairman, U.S. National Committee of International Union of Radio Science  
 Commission E: Electromagnetic Noise and Interference

**AWARDS / HONORS:**

Fellow of the EMP Society, 2004  
 Citation from DTRA for Invaluable Contribution to the Military Critical Technologies Program in Weapons Effects Technology, 2004  
 Air Force Citation for Outstanding Technical Performance on AWACS EMP Program, 1978  
 International Union of Radio Science Citation for Outstanding Paper, 25<sup>th</sup> General Assembly, Lille, France, 1996  
 Under Secretary of Defense Citation for Technical Accomplishments in Military Critical Technologies Program, 1990



**Dr. Alan C. Kolb**  
**President**  
**ACK Associates**  
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**EDUCATION:**

Ph.D., Physics, University of Michigan, 1957  
 M.S., Physics, University of Michigan, 1950  
 B.S., Physics, Georgia Institute of Technology, 1949

**FIELDS OF EXPERTISE:**

Mathematics	Physics
Engineering	Leadership
Research and Development	Plasma Physics
R&D Management	Technology Assessment

**EXPERIENCE:**

ACK Associates, President, 1996-Present  
 E-Blast LLC, Chairman and CEO, 1999-Present  
 Maxwell Laboratories / Maxwell Technologies, 1965-1996, including:  
 Co-founder, Director, 1965-1970  
 President and CEO, 1970-1996  
 Naval Research Laboratory, 1955-1969, including:  
 Superintendent, Plasma Physics Division, 1959-1969  
 Head, Plasma Physics Branch, 1957-1959  
 Staff Scientist, 1955-1957

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Fellow, American Physical Society  
 Plasma Physics Division of APS

**AWARDS / HONORS:**

Peter Haas Award for Outstanding Service to the field of Pulsed Power Technology, 1993  
 Defense Nuclear Agency Certificate of Achievement for work in pulsed power / advanced simulation concepts in 1966-1976  
 Outstanding Physicist of 1964, Washington Academy of Scientists  
 Published over 100 papers in scientific and engineering journals



**Dr. Wade M. Kornegay**  
**Division Fellow**  
**Radar Measurements Division**  
**Massachusetts Institute of**  
**Technology / Lincoln Laboratory**  
**244 Wood Street**  
**Lexington, MA 02420**  
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**EDUCATION:**

Senior Executives Program, M.I.T. / Sloan School of Management, 1979  
 Ph.D., Physical Chemistry, University of California at Berkeley, 1961  
 B.S., Mathematics / Chemistry, North Carolina Central University, 1956  
 Fulbright Program, Physical Chemistry, Bonn University, Germany, 1956-1957

**FIELDS OF EXPERTISE:**

Ballistic Missile Defense	Target Recognition and Discrimination
Re-entry Physics and Phenomenology	Radar / Optical Measurements and Analysis
R&D Management	Hypervelocity Ballistics

**EXPERIENCE:**

MIT Lincoln Laboratory, 1962-Present, including:  
 Division Fellow, 2000-Present  
 Division Head, 1986-2000  
 Group Leader, 1970-1986  
 Technical Staff Member, 1962-1970

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Institute of Aeronautics and Astronautics  
 Sigma Xi Honor Society  
 National Organization of Black Chemists and Chemical Engineers  
 Board of Trustees, Andover Newton Theological School  
 DDR&E Technology Area Review Assessment Panel, 1999-2001  
 Vice Presidential Task Force on Youth Motivation, 1966-1968

**AWARDS / HONORS:**

Army Outstanding Civilian Service Medal, 2000  
 Featured in "Distinguished African Scientists of the 20<sup>th</sup> Century", 1996  
 Engineer of the Year, National Society of Black Engineers, 1990  
 M.L. King, Jr. Achievement Award for Distinguished Service to Education, 1980  
 Honorary Doctor of Science Degree, Lowell University, 1979  
 Post-doctoral Fellow, National Science Foundation, 1961-1962  
 Fulbright Fellow, 1956-1957; Danforth Foundation Fellow, 1956-1961





**Dr. Steven Kornguth**  
**Professor of Pharmacy**  
**The University of Texas at Austin**  
**3925 W. Braker Lane, Suite 400**  
**Austin, TX 78759-5329**  
**Business Phone: (512) 232-4485**  
**Business Fax: (512) 471-9103**  
**E-Mail: steve\_kornguth@iat.utexas.edu**

**EDUCATION:**

Ph.D., Biochemistry University of Wisconsin at Madison, 1961  
 M.S., Biochemistry, University of Wisconsin at Madison, 1959  
 B.A., Chemistry, Columbia College, 1957

**FIELDS OF EXPERTISE:**

Chemistry	Microbiology
Countermeasures	Defense Analysis
Toxicology	Health Care
Biology	Sensors
Environmental Remediation	Biotechnology

**EXPERIENCE:**

University of Texas at Austin, Professor of Pharmacy, 2003-Present  
 Institute for Advanced Technologies, Director, Biological and Chemical Defense, 1999-Present  
 University of Texas at Austin, Professor of Neurobiology, 1998-2003  
 Departments of Neurobiology and Biomolecular Chemistry, University of Wisconsin at Madison, Professor Emeritus, 1998-Present;  
 Professor, 1972-1998;  
 Departments of Neurology and Physiological Chemistry, University of Wisconsin at Madison, Associate Professor, 1968-1972;  
 Assistant Professor, 1964-1968;  
 Instructor, 1963-1964;  
 New York State Psychiatric Institute & Columbia University, Research Scientist, 1961-1963

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Society of Biological Chemists  
 American Society of Neurochemistry  
 Neuroscience Society  
 International Society of Neurochemistry  
 American Chemical Society



**Mr. Kurt M. Kovach**  
**Booz Allen Hamilton**  
**151 Industrial Way East**  
**Eatontown, NJ 07724**  
**Business Phone: (732) 935-5143**  
**Cell Phone: (908) 489-4195**  
**Business Fax: (732) 935-5205**  
**E-Mail: kovach\_kurt@bah.com**

**EDUCATION:**

M.S., Technology Management, Stevens Institute of Technology, 1998  
 B.S., Electronic Engineering, Monmouth University, 1985

**FIELDS OF EXPERTISE:**

Electrochemistry	Environmental Science
C3I	Information Systems Life Cycle
Command and Control	Information Systems
Signals Intelligence	Anti-Terrorism & High-Tech
Plasma Physics	

**EXPERIENCE:**

Booz-Allen Hamilton, 2003-Present  
 PlasmaSol Corporation, Chairman and CEO, 1999-2003  
 U.S. Army CECOM Research Development and Engineering Center, 1986-2000, including  
 Division Director, Platform and Logistics Information Systems, 1998-2000  
 Division Director, Modeling, Simulation and C3 Architecture, 1995-1998  
 Special Project Officer, 1994-1995  
 Branch Manager, 1992-1994  
 Associate Chief of Engineering, 1991-1992  
 Project Leader, 1986-1991

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Armed Forces Communications Electronics Association  
 Army Aviation Association of America  
 Association of Old Crows  
 New Jersey Technology Council

**AWARDS / HONORS:**

For PlasmaSol Corporation: Thomas Alva Edison Award; Most Innovative Product Award; Environmental Company of the Year Award



**Mr. Ira F. Kuhn, Jr.**  
**President**  
**Directed Technologies, Inc.**  
**3601 Wilson Blvd., Suite 650**  
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**Business Phone: (703) 243-3383**  
**Business Fax: (703) 243-2724**  
**E-Mail:**  
**ira\_kuhn@directedtechnologies.com**

**EDUCATION:**

M.S.I.A. (M.B.A.), Management, Carnegie Mellon University, 1961  
 B.S., Physics, Carnegie Mellon University, 1959

**FIELDS OF EXPERTISE:**

Management of R&D  
 Air Vehicle Development  
 Energy Systems Development  
 Defense Systems Analysis and Evaluation

**EXPERIENCE:**

Directed Technologies, Inc., Founder, CEO, 1982-Present  
 B-K Dynamics, Inc., Founder, V.P. Science Technology, 1964-1982  
 Booz-Allen Applied Research, Inc., Senior Scientist, 1962-1963

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Army Science Board  
 National Security Advisory Panel to DCI, 1993-1999  
 American Institute of Aeronautical Astronautics



**Mr. Richard B. Ladd**  
**President**  
**Robison International, Inc.**  
**One Massachusetts Ave**  
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**Washington, DC 20001**  
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**Business Fax: (202) 371-1178**  
**E-Mail: dickladd@aol.com**

**EDUCATION:**

Air Force Command and Staff College, 1978  
 U.S. Army Command and General Staff College, 1976  
 M.B.A., Management Science, Tulane University, 1973  
 A.B., Mathematics, Bowdoin College, 1962

**FIELDS OF EXPERTISE:**

Mathematics	Budgetary & Congressional Issues
Operations Research	Army Aviation
Defense Research and Development	Logistics
Acquisition	Testing and Evaluation

**EXPERIENCE:**

Robison International, President, 1990-Present  
 Vice President, 1988-1990  
 Deputy Under Secretary of the Army, 1987  
 Senate Appropriations Defense Subcommittee, Professional Staff, 1982-1987  
 U.S. Army, 1962-1982

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

National Defense Industrial Association  
 Association of the United States Army  
 U.S. Army Command and General Staff College  
 U.S. Air Force Command and Staff College  
 Beta Gamma Sigma

**AWARDS / HONORS:**

Bronze Star (3)  
 Air Medal (16)



**Dr. Jasper Lupo**  
**Director for Sensors and Electronics**  
**Applied Research Associates**  
**7601 Modisto Lane**  
**Springfield, VA 22153-1634**  
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**Business Fax: (703) 329-0204**  
**E-Mail: jlupo@ara.com**

**EDUCATION:**

Ph.D., Georgetown University, 1981  
M.S., Physics, The American University, 1973  
B.S., Physics, The American University, 1969

**FIELDS OF EXPERTISE:**

Advanced Conventional Weapons	Artificial Intelligence
Electronic Warfare	Electronics
Infrared	Optoelectronic Devices
Robotics	Surveillance

**EXPERIENCE:**

Applied Research Associates, Director of Sensor Systems, 2002-Present  
Office of the Director of Defense Research and Engineering,  
Director of Sensor Systems, 1996-2001  
Director for Research, 1992-1996  
DARPA, Assistant Director for Smart Weapons, 1982-1991  
Manager, Night Vision and IR Sensors, 1968-1982

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Member, Weapons, OSD TARA Team, February 2002  
Member at Large, IEEE USA Research and Development Policy Committee  
Senior Member, IEEE  
Fellow, American Institute of Medical and Biological Engineers  
Sigma Xi Scientific Research Society  
Member of the Executive Committee, NDIA Night Operations Symposium

**AWARDS / HONORS:**

Applied Research Associates Fellow, 2005  
2001 Hebb Award by International Joint Conference on Neural Networks  
OSD Exceptional Performance Awards, 1998, 1999  
Army R&D Achievement Award, 1974, Development of Night Vision Goggles



**GEN David M. Maddox (USA, Ret.)**  
**Consultant**  
**2301 Fort Scott Drive**  
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**EDUCATION:**

U.S. Army War College  
Armed Forces Staff College  
U.S. Army Armor School, Basic and Advanced Courses  
M.S., Operations Research, Southern Illinois University, 1968  
B.S., Mathematics, Virginia Military Institute, 1960

**FIELDS OF EXPERTISE:**

Operations Research	Simulation & Modeling
Logistics	Joint Operations/Warfighting
Organizational Design & Materiel Requirements	

**EXPERIENCE:**

Consultant, 1995-Present  
U.S. Army, 1960-1995  
Commander, US Army Europe and Seventh Army, Germany, 1992-1994  
Commanding General, V Corps, US Army Europe and Seventh Army, Germany,  
1990-1992  
Commanding General, 8th Infantry Division (Mechanized), V Corps, US Army  
Europe and Seventh Army, Germany, 1989-1990  
Deputy Chief of Staff, Combat Developments, TRADOC, 1987-1989  
Commanding General, Combined Arms Operations Research Activity,  
Fort Leavenworth, KS, 1983-1986

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Member, National Academy of Engineering  
Consultant to Defense Science Board  
Member, Army Science Board  
Member, The Washington Institute of Foreign Affairs  
Member of the Corporation, Draper Laboratory

**AWARDS / HONORS:**

Distinguished Service Medal with Oak Leaf Cluster  
Legion of Merit with 5 Oak Leaf Clusters  
Bronze Star Medal  
Meritorious Service Medal  
Air Medals; Army Commendation Medal  
Department of the Army's Commanders Award for Public Service  
Badges: Combat Infantryman Badge, Parachutist Badge, Army Staff I.D. Badge



**Mr. John M. Matsumura**  
 Associate Director  
 Force Development and Technology  
 Army Research Division  
 RAND  
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**EDUCATION:**

M.S., Engineering Mechanics, Pennsylvania State University, 1987  
 B.S., Aerospace Engineering, Pennsylvania State University, 1985

**FIELDS OF EXPERTISE:**

Force-on-Force Modeling and Simulation	Small Unit Operations
Smart Munitions	Advanced Military Technologies
Ground Combat Systems	Deep Attack Operations
Survivability Technologies	Advanced / Exotic Materials
Force Projection Technologies	

**EXPERIENCE:**

RAND, 1987-Present, including:  
 Manager, Joint Warfare Simulation and Analysis, Arroyo Center and National Defense Research Institute, Since 2001  
 Research Leader for Advanced Technology for Future Forces and Weapon Systems, Acquisition and Technology Policy Center, National Security Research Division, 1996-2001  
 Project Leader and Research Leader, Force Development and Technology Program, Arroyo Center, Since 1993  
 Pennsylvania State University, Teaching Assistant, Department of Engineering Science and Mechanics, 1985-1987  
 U.S. Army Corps of Engineers, Engineer Technician, Emergency Operations Center, Summers of 1982-1985

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Society for the Advancement of Materials and Process Engineering  
 Society of Manufacturing Engineers  
 American Institute of Aeronautics and Astronautics  
 National Aerospace Engineering Honor Society  
 Association of the United States Army

**AWARDS / HONORS:**

RAND President's Award



**Dr. Laura L. Miller**  
 Social Scientist  
 RAND  
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**EDUCATION:**

Ph.D., Sociology, Northwestern University, 1995  
 M.S., Sociology, Northwestern University, 1991  
 B.S., European and Soviet Studies, University of Redlands, 1989

**FIELDS OF EXPERTISE:**

Leadership Development	Manpower, Personnel and Training
Sociology	Organizations and Institutions
Military Culture	Race, Class and Gender

**EXPERIENCE:**

RAND, Social Scientist, 2002-Present  
 Secretary of the Army's Transition Team, 2005  
 University of California at Santa Barbara, Center for the Study of Sexual Minorities in the Military, Board of Directors Member, 2001-Present  
 Congressionally-Mandated Task Force on Sexual Harassment and Violence at the Military Service Academies, 2004-2005  
 Congressionally-Mandated Panel to Investigate Sexual Misconduct Allegations at the Air Force Academy, Member, 2003  
 University of California at Los Angeles, Assistant Professor of Sociology, 1997-2002  
 Congressional Commission on Military Training and Gender-Related Issues, Consultant, 1998-1999  
 Secretary of the Army Sexual Harassment Panel, Consultant, 1997  
 John M. Olin Institute for Strategic Studies, Post-Doctoral Fellow, 1995-1997

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Inter-University Seminar on Armed Forces and Society;  
 Executive Council Member, Appointed: 1995-1997; Elected: 1997-Present;  
 American Sociological Association: Peace, War and Social Conflict Section, Council Member, Elected 1997-2000;

**AWARDS / HONORS:**

Phi Beta Kappa Graduate Scholarship, 1989  
 Distinguished Article Award, Sex and Gender Section of the ASA, 2000



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**Consultant**  
**1398 Avenida Da Cortez**  
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**EDUCATION:**

Ph.D., Electrical Engineering, California Institute of Technology, 1948  
 M.S., Electrical Engineering, California Institute of Technology, 1946  
 B.A., Physics, Math, University of British Columbia, 1940

**FIELDS OF EXPERTISE:**

Systems Engineering	Program Management
Ballistic Missiles and Air Defenses	Strategic Missile Systems
Communications, Surveillance, Intelligence	Land Warfare

**EXPERIENCE:**

Montgomery & Associates, Chairman, 1985-1997  
 Arroyo Center at California Institute of Technology, Director (First), 1983-1985  
 RDA, Vice President, Operations, 1974-1983  
 Boeing Aerospace, 1964-1974, including:  
   Director, Military Systems  
   Army Systems Division General Manager  
 Office of the Secretary of Defense, Assistant Director for Strategic Weapons, Office of the  
 Director of Defense Research and Engineering, 1962-1964  
 Boeing Aerospace Division, Project / Staff Engineer, various missile systems, 1951-1962

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

The Institute of Electrical and Electronics Engineers  
 Sigma Xi  
 Federal Advisory Board / Committee participation:  
   Consultant to ODDR&E, 1964-1969  
   Chair, Ballistic Missile Re-entry Systems Committee, USAF, 1965-1969  
   Army Scientific Advisory Panel, Member, 1967-1975  
     Vice Chair, 1970-1975  
   Army Science Board, Member, 1976-1983  
     Chair, 1981-1983  
 Strategic Defense Initiative Office Advisory Committee, 1985-1993

**AWARDS / HONORS:**

Secretary of Defense Citation for Exceptionally Distinguished Service  
 USAF Systems Command Outstanding Achievement Award  
 Army Outstanding Civilian Service Medal, 1983  
 IEEE Region 6 Achievement Award, 1970



**Mr. Robert A. Moore**  
**President**  
**Defense Systems and Technology, Inc.**  
**5071 Polk Avenue**  
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**Business Fax: (703) 370-4096**  
**E-Mail: ramoore@comcast.net**

**EDUCATION:**

M.S., Mechanical Engineering, University of California Los Angeles, 1963  
 B.S., Mechanical Engineering, Washington University (St. Louis, MO), 1954

**FIELDS OF EXPERTISE:**

Fluid Mechanics  
 Thermodynamics & Heat Transfer  
 Space Propulsion  
 Aircraft & Missiles  
 Re-entry Vehicles

**EXPERIENCE:**

Defense Systems and Technology, Inc, President, 1982-1987, 1989-Present  
 DARPA, Deputy Director, 1987-1989  
 Lockheed Skunk Works, Director of Programs, 1980-1982  
 Office of the Secretary of Defense, Deputy Under Secretary of Defense for Research &  
 Engineering, 1977-1980  
 DARPA, various, 1969-1977

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Institute of Aeronautics and Astronautics  
 Institute of Electrical and Electronics Engineers  
 Association of the United States Army  
 Air Force Association  
 U.S. Naval Institute  
 National Defense Industrial Association

**AWARDS / HONORS:**

Defense Meritorious Service Medal from the Secretary of Defense  
 Presidential Rank Award



**Dr. Prasanna G. Mulgaonkar**  
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Intel Corporation  
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prasanna.g.mulgaonkar@intel.com

**EDUCATION:**

Ph.D., Computer Science, Virginia Tech, 1984  
M.S., Computer Science, Virginia Tech, 1981  
Bachelor of Technology, Electrical Engineering, Indian Institute of Technology  
(Kanpur), 1979

**FIELDS OF EXPERTISE:**

Machine Learning  
Artificial Intelligence  
Data and Knowledge Based Systems  
Wireless Information Systems  
Robotics  
Situation Awareness Systems

**EXPERIENCE:**

Intel Corporation, Research Sector Director, Intel Research, 2003-Present  
SRI International,  
Director, Vice President (Acting), Information Telecommunications and Automation  
Division, 2002-2003  
Director, Advanced Automation Technology Center, 1993-2002  
Director, Machine Vision and Robotics Program, 1990-1993  
Computer Scientist, Robotics Laboratory, 1984-1990

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

IEEE Computer Society  
ASME, emeritus Chair, Executive Committee for Material Handling Engineering Division  
Served on multiple scientific advisory committees including  
the Defense Science Board and the National Science Foundation Board of Visitors



**Dr. William J. Neal**  
Special Assistant for Integrated  
Army C4I  
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McLean, VA 22102-7508  
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Business Fax: (703) 883-5432  
E-Mail: wneal@mitre.org

**EDUCATION:**

Ph.D., Electrical Engineering, Howard University, 1984  
M.S., Electrical Engineering, Stanford University, 1978  
B.S., Electrical Engineering, Howard University, 1976

**FIELDS OF EXPERTISE:**

Command, Control, Communications, Computers and Intelligence  
Computer and Information System Architecture  
Data and Knowledge Based Systems  
Electrical Engineering  
Modeling and Simulation  
R&D Management  
Systems Engineering, Analysis and Integration  
Technology Assessment

**EXPERIENCE:**

The MITRE Corporation, 1992-Present  
Potomac Systems Engineering, Inc., Senior Vice President, 1984-1992  
Howard University, Instructor, 1978-1984  
NASA Ames Research Center, Computer Systems Engineer, 1976-1978

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Sigma Xi  
Tau Beta Pi  
Armed Forces Communications Electronics Association  
Association of the United States Army  
National Technical Association

**AWARDS / HONORS:**

Named "Distinguished Black College and University Graduate" in the 2003  
HBCU Engineering Colloquium Book by The Council of Engineering Deans of the  
Historically Black Colleges and Universities  
Certificate of Appreciation, Secretary of Defense, January 2001  
Black Engineer of the Year, Deans' Award, 1999  
Certificate of Appreciation for Patriotic Civilian Service, Department of the Army, 1998



**LTG Max W. Noah (USA, Ret.)**  
**President**  
**Max Noah & Associates, Inc.**  
**820 Arcturus-On-Potomac**  
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**EDUCATION:**

U.S. Army War College, 1970  
 ORSA Course, Institute of Defense Analyses, 1968  
 U.S. Army Command and General Staff College, 1965  
 Engineer Officer Advanced Course, U.S. Army Engineer School, 1959  
 M.S.E., Purdue University, 1957  
 B.S., United States Military Academy, 1953

**FIELDS OF EXPERTISE:**

Command	Resource Management
Operations Research	Systems Analysis
Military and Civil Construction	Combat Engineer Systems

**EXPERIENCE:**

President, Max Noah and Associates, 1997-Present  
 Vice President, Burdeshaw Associates, 1988-1997  
 U.S. Army, 1953-1988  
 Comptroller of the Army, 1984-1988  
 Director, Army Program Analysis and Evaluation, 1982-1984  
 Commander, Army Engineer School, Ft. Belvoir, 1980-1982  
 Commander, Huntsville Engineer Div., USACE, Huntsville, AL, 1980  
 Deputy Chief of Staff for Resource Management, TRADOC, 1977-1979  
 Commander, St. Paul Engineer District, 1975-1977  
 Commander, 2<sup>nd</sup> Engineer Group Korea, 1974  
 Military Analyst, DUSA(OR), 1971-1973  
 Commander, 307<sup>th</sup> Engineer Bn, 82 Abn Div, Ft. Bragg, NC, 1968-1969  
 Chief of Operations, 18<sup>th</sup> Engineer Brigade, Vietnam, 1966-1967  
 S3, 45<sup>th</sup> Engineer Group, 18<sup>th</sup> Engineer Brigade, Vietnam, 1966  
 Assistant Professor/Instructor, Department of Electricity, USMA  
 Platoon Leader, Company C, 10<sup>th</sup> Engineer Battalion (Combat), 3<sup>rd</sup> Infantry  
 Division, Korea, Dec. 1953 - Oct. 1954

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Army Engineer Association (current President Ex-Officio)  
 Society of American Military Engineers  
 Association of the United States Army  
 Tau Beta Pi Engineering Honorary Society

**AWARDS / HONORS:**

Gold and Silver DeFleury Medal, AEA  
 Distinguished Service Medal (First Oak Leaf Cluster),  
 Legion of Merit (w/ Oak Leaf Cluster), Bronze Star, Meritorious Service Medal  
 Air Medal, Army Commendation Medal (w/ Oak Leaf Cluster)  
 Badges: Senior Parachutist, Army Staff ID



**LTG Charles P. Otstott (USA, Ret.)**  
**Vice President**  
**Bellwether Research, Inc.**  
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**Business Fax: (703) 323-0595**  
**E-Mail: cotstott@aol.com**  
**cotstott@bellwetherresearch.com**

**EDUCATION:**

National War College, 1979  
 M.S., Engineering, Purdue University, 1967  
 B.S., United States Military Academy, 1960

**FIELDS OF EXPERTISE:**

Command and Control  
 Combat Developments  
 NATO  
 Division Operations

**EXPERIENCE:**

Bellwether Research, Vice President, 2005-Present  
 Private Consultant, 2001-2004  
 Global InfoTek, Inc., Vice President, 1999-2001  
 BBN Technologies, Vice President, 1996-1999  
 Innovative Logistics Techniques, Inc., Senior Systems Analyst, 1994-1996  
 Burdeshaw Associates, Ltd., Consultant, 1992-1994  
 United States Army, retired as LTG, 1960-1992 Including:  
 Deputy Chairman, NATO Military Committee, Brussels  
 Commanding General, 25<sup>th</sup> Infantry Division  
 Assistant Division Commander, 1<sup>st</sup> Armored Division  
 SACEUR Executive Officer  
 Commander, 2nd Brigade, 9<sup>th</sup> Infantry Division (HTLD)  
 2 Tours in Viet Nam, 2 in Germany, 2 in SHAPE and NATO

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Association of the United States Army

**AWARDS / HONORS:**

Military Awards and Decorations:  
 Defense Distinguished Service Medal  
 Army Distinguished Service Medal  
 Silver Star  
 Legion of Merit  
 Bronze Star (3)



**Mr. Robert N. Parker**  
**Consultant**  
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**E-Mail: imii2@aol.com**

**EDUCATION:**

M.S., Engineering, University of California at Los Angeles, 1956  
 B.S., Engineering, University of California at Los Angeles, 1954

**FIELDS OF EXPERTISE:**

System Design and Development	Missiles (Air and Ground)
Engineering	Management
Mission Analysis	Research and Development
Tactical Warfare	Weapons Systems

**EXPERIENCE:**

Private Consultant, 1992-Present  
 LTV Corporation (Ling-Temco-Vought, descendant of Chance Vought Aviation),  
 1979-1992, including:  
 LTV Aerospace and Defense Company, Executive Vice President, 1991-1992  
 LTV, Group President, Group Vice President, LTV Corporation, 1986-1991  
 LTV Missiles and Electronics, President, Missiles Division, 1983-1986  
 Vought Corporation, Senior Vice President of Research and Engineering, 1979-1983  
 Northern Telecom, Inc., Group Vice President, 1977-1979  
 Office of the Secretary of Defense, Principal Deputy Director of Defense Research and  
 Engineering, 1973-1977  
 United States Air Force, 1946-1949, and during Korean conflict 1951-1953

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Past Member, Defense Science Board  
 Past Member, Board of Directors:  
 Kollmorgen Corporation  
 Perceptronics Corporation  
 Flyer Group  
 Association of the United States Army

**AWARDS / HONORS:**

AUSA John W. Dixon Award, 1990



**Dr. Roberta-Diane J. Perna**  
**Private Consultant**  
**MezzoGiorno Consulting**  
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**Business Fax: (703) 443-1573**  
**E-Mail: robbi.perna@us.army.mil**

**EDUCATION:**

Ph.D., The Union Institute, Art and Social History (Political use of Art), 1998  
 M.A., Norwich University, Art History, 1994  
 B.A., Denver University, Art History, 1992

**FIELDS OF EXPERTISE:**

Strategic Communications	Management
Distance Learning	Army ROTC Program
Writing and Editing	Public Affairs / Media Relations
Business Communications	

**EXPERIENCE:**

MezzoGiorno Consulting, Owner/President, 1988-Present  
 Norwich University, Corporate Liaison, 1994-2000  
 AUSA George Washington Chapter, Board of Advisors, 1997-Present  
 Senior Military Colleges Task Force, Coordinator, 1994-2000  
 Capital Hill Investments, Inc., President / Chair, 1984-1988

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Association of the United States Army  
 Society for the Promotion of Roman Studies  
 3<sup>rd</sup> U.S. Infantry Association (TOGA)  
 2<sup>nd</sup> U.S. Infantry Division Association  
 9<sup>th</sup> Infantry Regiment Association  
 Phi Sigma Iota (the Foreign Language Honor Society)

**AWARDS / HONORS:**

First Female Honorary Distinguished Member of Regiment, 3<sup>rd</sup> U.S. Infantry (The Old Guard)  
 Dante Alighieri Society Award for Excellence in Italian Language and Culture Studies





**BG James R. Ralph (USA, Ret.)**  
**Chairman and CEO**  
**Ralph Consulting LLC**  
**5091 Cannon Bluff Drive**  
**Woodbridge, VA 22192-5739**  
**Business Phone: (703) 590-6508**  
**Business Fax: (703) 590-9376**  
**E-Mail: jralp29470@aol.com**

**EDUCATION:**

M.A., History and Business Administration, Shippensburg University, 1972  
 B.A., magna cum laude, History and Business Administration, Park College, 1968  
 Graduate of: DoD Systems Management College, 1985; Executive Management Program, University of Pittsburgh Graduate School of Business, 1977; Army War College, 1972; Army Command and General Staff College, 1968; Industrial College of the Armed Forces, 1967

**FIELDS OF EXPERTISE:**

Training and Education	Personnel Resource Management
Strategic Management	Strategic Human Resource Planning
Process Re-Engineering	Human Capital Development
Executive Management	

**EXPERIENCE:**

Ralph Consulting LLC, Chairman and CEO, 1999-Present  
 Automation Research Systems, Ltd., 1986-1999 including: President and Vice Chairman, 1996-2000; Executive Vice President, 1987-1996; Vice President, Information Technology, 1986-1987  
 U.S. Army, 1952-1986 including:  
 Commander, Army Personnel Information Systems Command and Deputy Cdr. Army Personnel Center, 1983-1986 (concurrent); Information Management Officer, Office of the Deputy Chief of Staff for Personnel, 1983-1986 (concurrent); Deputy Commanding General 7<sup>th</sup> Signal Command, 1983-1986 (concurrent)  
 Commander and Deputy, U.S. Army Computer Systems Command, 1981-1983  
 Deputy Chief of Staff, Systems and Automation, U.S. Army Europe, 1977-1981  
 Director of Training and Education, U.S. Army Institute of Administration, 1973-1977  
 Staff Officer, Staff Management Division, Office of the Chief of Staff of the Army, 1970-1971  
 Adjutant General, Americal Division, Vietnam, 1969-1970

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Armed Forces Communication Electronics Association: Washington Chapter Board of Directors, 1999-2006; International Associate Director, Board of Directors, 1999-2006; Chairman, International Technical Committee, 1994-1999; Chairman Emeritus, International Technical Committee, 2000-2006;

**AWARDS / HONORS:**

Distinguished Service Medal; Legion of Merit w/2 OLC; Bronze Star w/OLC; Vietnamese Cross of Gallantry with Palm; Meritorious Service Medal w/ OLC; Air Medal (2); Army Commendation Medal w/ 2 OLC; Meritorious Unit Commendation w/OLC, General Staff Badge; RVN Medal w/ 4 Stars; Defense Service Medal; National Defense Service Medal; Good Conduct Medal; Senior Parachutist Badge



**LTG Randall L. Rigby (USA, Ret.)**  
**Deputy for Systems Analysis and Strategy**  
**Sandia National Laboratories**  
**P.O. Box 5800, MS 1221**  
**Albuquerque, NM 87185-1221**  
**Business Phone: (505) 284-7728**  
**Business Fax: (505) 284-4388**  
**E-Mail: rlrigby@sandia.gov**

**EDUCATION:**

M.B.A., Finance, Long Island University, 1977  
 M.S., Experimental Psychology, University of Oklahoma, 1975  
 B.S., Psychology, Oklahoma State University, 1968

**FIELDS OF EXPERTISE:**

Combat Development	Fire Support
Command and Control	Leadership
Cognition	Soldier Systems
Training	

**EXPERIENCE:**

Sandia National Laboratories, Deputy for Systems Analysis and Strategy, 2004-Present  
 Independent Consultant, 2001-2004  
 U.S. Army, 1968-2000, including:  
 Deputy Commanding General, U.S. Army Training and Doctrine Command, 1998-2000  
 Director, Program Analysis and Evaluation, Office of the Army Chief of Staff, 1997-1998  
 Commanding General, U.S. Army Field Artillery Center and Ft. Sill, Oklahoma, 1995-1997  
 Deputy Commandant and Deputy Chair of Army Leadership, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas, 1994-1995  
 Deputy Director for Warfighting Assessments, J-8, The Joint Staff, 1993-1994  
 Executive Officer to the Army Vice Chief of Staff, 1992-1993  
 Commander, 6<sup>th</sup> Infantry Division Artillery, Fort Richardson, Alaska, 1990-1992  
 Instructor, Assistant Professor and Director, Cadet Counseling Center, West Point, New York, 1975-1978  
 Battery Commander, 1<sup>st</sup> Cavalry Division, Republic of Vietnam, 1970-1971

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

National Society of Scabbard and Blade  
 Association of the United States Army  
 Field Artillery Association

**AWARDS / HONORS**

Numerous Military Awards and Decorations  
 Distinguished Graduate, Oklahoma State University



**Mr. Joseph P. Santarelli**  
**Senior Program Manager**  
**Raytheon Company**  
**180 Hartwell Road**  
**M/S S1CG39**  
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**Business Phone: (781) 999-2222**  
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**E-Mail:**  
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**EDUCATION:**

Coursework toward M.B. A., various  
 B.S., Education, Norwich University, 1979

**FIELDS OF EXPERTISE:**

Combat Development	Acoustics
C3I	Missiles
Counter-Terrorism	Leadership
Logistics	Weapons Systems
Signals Intelligence	Systems Integration

**EXPERIENCE:**

Raytheon Company, Senior Program Manager, 1998-Present  
 General Dynamics Ordnance Systems, Senior Manager, Business Development, 1996-1998  
 Textron Systems Division, Manager, Army Business Development, 1988-1996  
 DoD Task Force on Unattended Ground Sensors, 1993-1994  
 GE Automated Systems Division, Marketing Representative, 1983-1988

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

Association of the United States Army:  
 Region I President, 2000-Present; Member, Council of Trustees, 2000-Present  
 Vice President, Massachusetts Bay Chapter, 1995  
 Life Membership awarded by President of AUSA, 2004  
 Certified National Level Soccer Coach "F" and "E" Licenses  
 Gordon College Soccer School, Instructor/Coach, 1998-Present  
 Norwich University Athletic Club, President, 1991-1995  
 President, Norwich University Boston Alumni Club, 1984

**AWARDS / HONORS**

Raytheon Vice President and General Manager's Special Achievement Award, 2001  
 Textron Systems Excalibur Award for Professional Excellence and Performance, 1995 and 1996  
 Ancient and Honorable Artillery Association of Massachusetts, elected Member, 1990;  
 Sergeant of the Artillery, 1993  
 Infantry Wing Adjutant, 1995-1996  
 Norwich University Alumni Directors Award, 2004



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**E-Mail: alanschwartz@arsdc.com**

**EDUCATION:**

LL.M., Administrative Law, Georgetown University Law Center, 1978  
 J.D., Law, University of Pennsylvania, 1976 (cum laude)  
 B.A., Political Science, SUNY at Buffalo, 1973 (summa cum laude)

**FIELDS OF EXPERTISE:**

Law	Management
Counter-Terrorism	Strategic and Scenario Planning
Security Policies and Procedures	

**EXPERIENCE:**

PolicyFutures LLC, Owner and Co-Founder, 1998-Present  
 Hamilton Securities Group, Inc, Senior Member and Member of Board of Directors, 1994-1997  
 New American Schools Development Corporation, Chief Operating Officer and Vice President of Policy Implementation, 1992-1993  
 Alaska Natural Gas Transportation System, Office of the Federal Inspector, Counselor, 1990-1992  
 President's Commission on Aviation Security and Terrorism, Counsel, 1989-1990  
 Nash, Railsback & Plesser, Partner, 1983-1988  
 National Cooperative Bank, Deputy General Counsel, 1982-1983  
 U.S. Consumer Product Safety Commission, Special Assistant to the General Counsel, 1979-1981  
 Staff Attorney, Georgetown University Law Center Institute for Public Representation  
 Law Clerk, Hon. Stanley S. Brotman, United States District Court (New Jersey)

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

Phi Beta Kappa  
 Member, District of Columbia Bar Association (1976-Present)  
 Member, Defense Science Board Task Force on Vulnerabilities Assessment (2001)  
 Member, Defense Science Board Summer Studies (2004-2005)

**AWARDS / HONORS**

Chairman's Special Recognition Award - Consumer Products Safety Commission, 1981  
 U.S. Delegate to Working Party on Product Safety, Consumer Committee, Organization for Economic Cooperation and Development (OECD) (1981)  
 Ford Foundation Fellow, Georgetown University Law Center (1977-1978)  
 Lecturer/speaker on aviation security and terrorism (Thomas Jefferson Program in Public Policy, College of William and Mary, American Association for the Advancement of Science, Albany Law School)



**Mr. George T. Singley, III**  
**President**  
**Transformation, Training and**  
**Logistics Group**  
**Science Applications International**  
**Corporation (SAIC)**  
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**McLean, VA 22102-3700**  
**Business Phone: (703) 676-5958**  
**Business Fax: (703) 676-6151**  
**E-Mail: [singleyg@saic.com](mailto:singleyg@saic.com)**

**EDUCATION:**

M.E., Mechanical Engineering, Old Dominion University, 1977  
 M.B.A., Business Administration, College of William and Mary, 1971  
 B.E.A., Mechanical Engineering, University of Delaware, 1968

**FIELDS OF EXPERTISE:**

Defense Research & Engineering      Rotorcraft Research, Development & Acquisition  
 Land Warfare Weapon Systems      Mechanical and Aerospace Engineering

**EXPERIENCE:**

Group President, Science Applications International Corporation (SAIC), 2004-Present  
 Sector Vice President, SAIC, 2001-2004  
 President and CEO, Hicks and Associates, Inc., 1998-2004  
 DoD/OSD, Acting Director, Defense Research and Engineering, 1997-1998  
 Acting Assistant to the Secretary of Defense (ATSD) for Nuclear Chemical and  
 Biological Defense Programs (NCB), 1998  
 Deputy Director, Defense Research and Engineering, 1995-1998  
 U.S. Army, Deputy Assistant Secretary for Research and Technology / Army Chief  
 Scientist, 1989-1995  
 Director, Research & Technology, OASA(RDA), 1988-1989  
 PEO for Combat Support Aviation, Office of the AAE, 1987-1988  
 Assistant Director of Army Research and Technology, OASA(RDA), 1985-1987  
 Deputy Project Manager, Light Helicopter Experimental (Comanche), U.S. Army  
 Aviation Systems Command, 1984-1985  
 Chief, Advanced Concepts Division, U.S. Army Aviation Systems Command,  
 1982-1984  
 Aerospace Engineer, Army Aviation Applied Technology Directorate, 1970-1980  
 Army Officer, 1968-1970

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Army Science Board, Member  
 National Academies Board on Army Science and Technology, Vice Chairman, 1999-2005  
 American Helicopter Society, Board Member and Past Board Chairman, President, Treasurer  
 Army Aviation Association of America, National Vice President  
 Association of the United States Army, Member

**AWARDS / HONORS:**

Presidential Distinguished Executive Rank Award, 1993; Presidential Meritorious Executive  
 Rank Award, 1991, 1998;  
 Secretary of Defense: Distinguished Public Service Award, 1998;  
 Distinguished Civilian Service Award, 1998; Meritorious Civilian Service Award, 1997  
 Department of the Army: Exceptional Civilian Service Award, 1988; Meritorious Civilian  
 Service Award, 1988 and 1983  
 Vice Presidential National Performance Review "Hammer Award," 2000 and 1998  
 Army Acquisition Corps Certification, 1991  
 Distinguished Engineering Alumni, University of Delaware, 1991



**Dr. Elizabeth Stanley-Mitchell**  
**Assistant Professor**  
**Edmund A. Walsh School of Foreign**  
**Service**  
**Georgetown University**  
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**Washington, DC 20057-1029**  
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**EDUCATION:**

Ph.D., Government / Political Science, Harvard University, 2002  
 M.B.A., Management, Sloan School of Management, MIT, 1999  
 B.A., Soviet / Eastern European Studies, Yale University, 1992

**FIELDS OF EXPERTISE:**

Low Intensity Conflict      Political Science  
 Military Effectiveness      Post Conflict Reconstruction  
 Defense Analyses      Tactical and Operational C3I  
 History-Military      Intelligence Activities  
 National Security      Management  
 Strategic Planning      Media and the Military

**EXPERIENCE:**

Georgetown University, 2000-Present, including:  
 Assistant Professor, Security Studies Program, 2003-Present  
 Associate Director, Center for Peace and Security Studies, 2001-2002  
 Visiting Instructor, Security Studies Program, 2000-2001  
 Business Consultant, biotech and internet start-up companies, 1999-2000  
 U.S. Army, Active Duty Military Intelligence Officer, 1992-1996, Honorably Discharged  
 as Captain; Reserves, 1996-2000;  
 Adjutant and Personnel Officer (S1), 501<sup>st</sup> Military Intelligence Battalion, 1995-1996  
 Liaison Officer for Task Force Able Sentry / Joint TF Provide Promise, 1995  
 Chief, Political-Military Assessments, 1<sup>st</sup> Armored Division, Germany, 1994-1995  
 Chief, All Source Intelligence, 1994  
 Surveillance Operations Officer, 1994  
 Intelligence and Security Officer, 304<sup>th</sup> Signal Battalion, Republic of Korea, 1993

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Member, National Security Advisory Panel, Sandia National Laboratories  
 Executive Board Member, Women in International Security (WIIS)  
 Council on Foreign Relations  
 International Studies Association  
 Inter-University Seminar on Armed Forces and Society

**AWARDS / HONORS:**

Post-Doctoral Fellowship in National Security, John M. Olin Institute for Strategic  
 Studies, Harvard, 2002-2003  
 National Science Foundation Graduate Research Fellowship, 1997-2001  
 NATO Expeditionary Medal; Army Commendation Medal (2); Joint Commendation  
 Medal; Humanitarian Service Medal; Army Achievement Medal;



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**EDUCATION:**

Fellow, MIT Seminar XXI, 1999-2000  
 Ph.D., Electrical Engineering, University of Illinois, 1969  
 M.S., Electrical Engineering, University of Illinois, 1965  
 B.S., Electrical Engineering, Columbia University, 1963

**FIELDS OF EXPERTISE:**

Command and Control Systems/C4ISR	Modeling and Simulation
Strategic Planning	Management
Information Systems	Training and Education

**EXPERIENCE:**

Barcroft Research Institute, Founder and President, 2004-Present  
 The MITRE Corporation, Director of Plans, 1985-2004  
 M/A-COM Government Systems, Assistant Vice President for C3I, 1982-1985  
 DoD/OSD, Office of the Assistant Secretary of Defense (C3I), Director, Long-Range Planning and Systems Evaluation, 1980-1982  
 Institute for Defense Analyses, Senior Project Leader, 1973-1980  
 George Washington University, Adjunct Associate Professor in Electrical Engineering 1973-1980  
 The MITRE Corporation, Member of the Technical Staff, 1969-1973

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Distinguished Fellow, Center for Technology and National Security Policy, National Defense University  
 Fellow, MORS; Board of Directors, MORS, 1993-1999  
 Associate Fellow, AIAA; Chair, AIAA Technical Committee on Information and C2 Systems, 2000-2002; Vice Chair, 1994-2000  
 Senior Member, IEEE

**AWARDS / HONORS:**

Clayton Thomas Medal for lifetime achievement in operations analysis, MORS, 2004  
 MITRE General Manager's Award for Excellence  
 MITRE Program Award  
 National Science Foundation Fellow  
 Member, Phi Beta Kappa, Eta Kappa Nu  
 Invited Lecturer at: National Defense University, Army War College, and the Naval Postgraduate School



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**EDUCATION:**

M.S., International Affairs, George Washington University, 1966  
 U.S. Army War College, 1966  
 U.S. Armed Forces Staff College, 1965  
 U.S. Army Command and General Staff College, 1960  
 B.S., U.S. Military Academy, West Point, 1948

**FIELDS OF EXPERTISE:**

Command of Armor / Mechanized Units	Combat Developments
Tactical / Operational Command & Control	Military Operations Research
Command & Control of Space Operations	History of Military Operations

**EXPERIENCE:**

Chairman of the Board, Universal Voltronics, 1998-Present  
 Ford Aerospace Corporation, 1983-1990, including:  
 Executive Vice President, Ford Aerospace, 1987-1990  
 Vice President and General Manager, Space Missions Group, 1983-1987  
 U.S. Army, 1943-1983: Enlisted 1943, Commissioned 1948-1983  
 Commander-in-Chief, United States Readiness Command, 1981-1983  
 Command, U.S. Army Training and Doctrine Command, 1977-1981  
 Command, U.S. V Corps, USAREUR, 1976-1977  
 Command, U.S. Army Armor Center and Fort Knox, 1973-1976  
 Command, 11<sup>th</sup> Armored Cavalry Regiment, Viet Nam & Cambodia, 1969-1970  
 Command of Armor units from Company to Battalion

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

Senior Fellow, Joint Forces Staff College, 1991-Present  
 Member, Defense Science Board, 1985-1993

**AWARDS / HONORS:**

Silver Star, Bronze Star (2), Soldier's Medal, Purple Heart, Air Medal (9)  
 Distinguished Flying Cross, Army Distinguished Service Medal (2)  
 Defense Distinguished Service Medal  
 Germany: Grosseveridenstkreuz, France: Ordre du Merite



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**EDUCATION:**

Ph.D., Spacecraft Dynamics and Controls, University of California at Los Angeles, 1984  
 M.S., Nuclear Engineering, USAF Institute of Technology, 1970  
 B.S., Engineering, U.S. Military Academy at West Point, 1968

**FIELDS OF EXPERTISE:**

Satellite Systems Architecture	Satellite Engineering
Commercial Communications Satellites	Satellite Dynamics & Control
Tethered Satellites	R&D Management
Strategic Planning	EMP Technologies
Satellite Survivability	

**EXPERIENCE:**

SouthWest Analytic Network, Chief Engineer and Vice President, 1998-Present  
 Essential Space, Inc. Partner, 2004-Present  
 Teaching Science and Technology, Inc., Associate Partner, 1998-2004  
 Motorola, 1989-1998, including:  
 Government Space Systems, Manager of Systems Development, 1996-1998  
 Advanced Systems Business Development, Director, 1995-1996  
 Satellite Bus Team, Lead, 1993-1995  
 Sunnyvale Operations, Director, 1993-1998  
 IRIDIUM Program Office, Representative, 1989-1993  
 Satellite Electronics Division, Washington Senior Systems Engineer, 1989-1993  
 Capitol College, Professor, Space Operations, 1991-1993  
 U.S. Air Force, 1968-1988, including:  
 Air Force Space Division, Director of Long Range Planning (SAFSP), 1984-1988  
 Jet Propulsion Laboratory, Consultant / Graduate Investigator, 1983-1984  
 Air Force Academy, Instructor / Executive Officer for Department of  
 Astronautics and Computer Sciences, 1979-1981  
 Air Force Space Division, Survivability Chief (SAFSP), 1976-1979  
 Space Operations Officer, KoKha Thailand, 1975-1976  
 Test Director/Engineer, AF Weapons Laboratory, KAFB 1970-1975

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES**

Fellow, British Interplanetary Society  
 Fellow, American Institute of Aeronautics and Astronautics  
 Member, International Academy of Astronautics (AIAA)  
 International Astronautics Federation, Member, Disaster Mitigation Committee, 1990-Present  
 International Academy of Astronautics, Member, Science and Technical Committee, 1996-Present

**AWARDS / HONORS:**

Author: Global Mobile Satellite Systems; Two Patents Awarded, Four Pending  
 Editor, Space Impact Upon Society, Published by the European Space Agency, 2005  
 Over 50 Articles Published



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**EDUCATION:**

M.B.A., Management, Long Island University, 1980  
 M.S., Aeronautical Engineering, Massachusetts Institute of Technology, 1977  
 B.S., Engineering, U.S. Military Academy at West Point, 1968

**FIELDS OF EXPERTISE:**

Leadership	Strategic Planning
Communications	Supplier Management/Partnering
Teambuilding	Union Negotiation
Government Relations	Financial Policy
Capital Raising	Mergers and Acquisitions

**EXPERIENCE:**

Metal Storm, Inc., Chief Executive Officer, 2002-2005  
 Power Medical Interventions, Inc., Chief Operating Officer, 2000-2001  
 Boeing Helicopter Division, Vice President and General Manager, 1998-2000  
 McDonnell-Douglas / Boeing, 1988-1998, including:  
 Vice President, Apache Programs, 1991-1998  
 Director, Customer Support, 1988-1991  
 U.S. Army, 1968-1982, U.S. Army Reserve, 1982-1996, including  
 Executive Assistant to Deputy Chief of Staff for Research, Development and  
 Acquisition, 1992-1996  
 Associate Professor, Developed Helicopter Design Course, U.S. Military Academy  
 1979-1982  
 Platoon Commander and Operations Officer, C Troop, 2/17 Cavalry Squadron, 101<sup>st</sup>  
 Airborne Division (Airmobile), Republic of Viet Nam, 1970-1971

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Board Member, Georgia Technology Center of Aerospace Systems Analysis  
 Army Aviation Association of America, President, Arizona Chapter, 1993-1998  
 Association of the United States Army

**AWARDS / HONORS:**

Silver Star; Joint Service Commendation Medal; Distinguished Flying Cross w/2 Oak Leaf  
 Clusters; Korean Service Medal; Republic of Viet Nam Gallantry Cross; Meritorious  
 Service Medal w/1 Oak Leaf Cluster; Senior Army Aviator; Air Medal (25<sup>th</sup> Award);  
 Army Commendation Medal w/1 Oak Leaf Cluster and 1 Valor Device; Ranger Tab;  
 Parachutist Badge; Army Commander's Award for Public Service



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**EDUCATION:**

Ph.D., Physical Chemistry, Yale University, 1971  
 M.S., Physical Chemistry, Yale University, 1968  
 B.S., Chemistry, University of New Mexico, 1967

**FIELDS OF EXPERTISE:**

Chemistry/Chemical Physics  
 Management  
 Education  
 Weapons of Mass Destruction

**EXPERIENCE:**

Indiana University-Purdue University Fort Wayne, Chancellor and Professor of Chemistry, 1994-Present  
 Indiana University-Purdue University Fort Wayne, Vice Chancellor for Academic Affairs and Professor of Chemistry, 1993-1994  
 Humboldt State University, Provost and Vice President for Academic Affairs and Professor of Chemistry, 1984-1989  
 James Madison University, Dean, College of Letters and Sciences and Professor of Chemistry, 1979-1984  
 Slippery Rock State College, Dean, School of Natural Sciences and Mathematics, and Professor of Chemistry, 1978-1979  
 Metropolitan State College, Department Chair, Associate Professor of Chemistry, 1975-1978  
 Metropolitan State College, Assistant Professor of Chemistry, Department of Chemistry, 1971-1975

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Phi Beta Kappa  
 Phi Kappa Phi  
 Kappa Mu Epsilon  
 Sigma Xi  
 American Chemical Society  
 Danforth Association  
 American Academy of Forensic Sciences, Fellow  
 American Physical Society



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**EDUCATION:**

Ph.D., Electrical Engineering, University of Illinois, 1960  
 M.S., Electrical Engineering, University of Illinois, 1957  
 B.S., Electrical Engineering, University of Illinois, 1956

**FIELDS OF EXPERTISE:**

Tactical and Operational C4ISR  
 Sensors and Sensor Exploitation Technology  
 Computer Sciences  
 Artificial Intelligence  
 Command and Control  
 Automatic Target Recognition

**EXPERIENCE:**

Consultant, Member of the ASB and consultant to the NGA, NSA and DARPA, 2002-Present  
 DARPA, Director, Information Exploitation Office (IXO), 2001-2002  
 Consultant, including service to the Senate Select Committee on Intelligence Technical Advisory Group and consultant services to DARPA and DSB, 1997-2001  
 DARPA, Assistant Director, Information Systems Office, 1994-1997  
 Office of the Secretary of Defense, Assistant Deputy Under Secretary of Defense Advanced Technology, Special Projects  
 Stanford University, Visiting Scholar, 1992-1993  
 Booz Allen, Vice President and Partner, 1991-1993  
 Advanced Decision Systems, CEO, President and Chairman of the Board, 1979-1991  
 Systems Control, Inc., Senior Vice President, 1969-1979  
 MIT Lincoln Laboratory, Staff / Assistant Group Leader, 1960-1969

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Member, Board of Directors of three companies:  
 Mercury Computing, Inc.  
 The Signature Group, Inc.  
 SET Associates, Inc.

**AWARDS / HONORS:**

Department of Defense Public Service Award  
 Electrical and Computer Engineering Distinguished Alumnus Award, University of Illinois, 1978



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**EDUCATION:**

Ph.D., Mechanical Engineering, University of California at Berkeley, 1982  
 M.S., Engineering Economic Systems, Stanford University, 1975  
 B.S., magna cum laude, Applied Mathematics / Computer Science, University of Missouri at Rolla, 1973

**FIELDS OF EXPERTISE:**

Critical Infrastructure	Critical Technology
Electromagnetic Pulse (EMP)	Research and Development
Anti-Terrorism and High-Tech	Strategic Planning
System Analysis	Technology Assessment

**EXPERIENCE:**

Sandia National Laboratories, 1974-Present, including:  
 Executive Vice President and Laboratories Deputy Director, 1999-Present  
 Vice President, Energy and Environment Division, 1995-1999  
 Director, Neutron Generator and Energetic Components Center, 1994  
 Director, Environmental Technology Center, 1990-1994  
 Manager, Materials Characterization Department, 1989-1990  
 Supervisor, Materials and Process Science for Nuclear Weapons and Strategic Defense Initiatives, 1984-1988  
 Supervisor, Solar Thermal Programs, 1982-1984  
 Technical Staff Member, Solar Thermal Programs, 1974-1982

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

National Academies Study on the Role of S&T in Countering Terrorism  
 Intelligence Science Board  
 Congressional Commission on Electromagnetic Pulse Effects  
 Greater Albuquerque Chamber of Commerce  
 Boy Scouts of America, Great Southwestern Council/Executive Board  
 University of New Mexico Board of Visitors  
 University of Missouri Rolla Engineering Advisory Board  
 Bosque School Board of Trustees  
 American Society of Mechanical Engineers  
 Society of Women Engineers

**AWARDS / HONORS:**

Phi Kappa Phi, University of Missouri, 1971  
 University of Missouri Rolla Alumni Award, 1977  
 University of Missouri Rolla Professional Engineering Degree, 1999  
 Named to "Twenty Women to Watch in the 21<sup>st</sup> Century" by Albuquerque Journal, 2000  
 Named to "Top 100 New Mexico Power Brokers" by New Mexico Business Magazine, 2001, 2002



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**CEO/President**  
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**EDUCATION:**

M.A., Political Science, Stanford University, 1973  
 M.S., Public Administration, George Washington University, 1965  
 B.S., General Engineering, U.S. Military Academy, 1956

**FIELDS OF EXPERTISE:**

Future Air/Land Warfare Requirements	Operational Cost-Benefit Analyses
History of Warfare	Command and Control
Simulation and Training for Air/Land Forces	Political Science
Army Aviation	

**EXPERIENCE:**

Tactical & Rescue Gear, Ltd., CEO and Founder, 1998-Present  
 M&W Medical Management of Texas, Chairman, 1996-1997, CEO, 1997  
 Perot Systems Corp., Head of North American Operations and Sales, 1994-1996  
 Director of Corporate Infrastructure, 1993-1994  
 Independent Defense Consultant, 1989-1993  
 U.S. Army, 1956-1989, including:  
 Commander, V Corps, 1987-1989  
 Deputy Chief of Staff Operations for Force Development, 1984-1987  
 U.S. Military Academy, Assistant Professor of History, 1965-1968  
 White House Fellow, 1968-1969, Assistant to Secretary of State  
 Viet Nam, 2 tours, Command of Helicopter Units, flew 1500+ combat hours

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

Member of the Board of Trustees, Culver Educational Foundation  
 White House Fellows Association  
 Hall of Fame, Army Aviation Association of America  
 Gold Medallion, Order of St. George, Armor Association

**AWARDS / HONORS:**

White House Fellow, 1968-1969  
 National Security Fellow, Hoover Institution at Stanford University, 1972-1973  
 Distinguished Service Medal (2); Silver Star; Legion of Merit (2);  
 Distinguished Flying Cross (5); Air Medal w/V (39)  
 Der Gross Verdienstkreuz (Germany)  
 Das Ehrenkreuz der Bundeswehr in Gold (Germany)  
 Cross of Gallantry with Palm (Vietnam)



**Dr. Thomas H. Woteki**  
**VP, Information Systems**  
**Engineering**  
**Northrop Grumman Mission Systems**  
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**EDUCATION:**

Ph.D., Statistics, Virginia Tech, 1993  
 M.S., Mathematics, Virginia Tech, 1972  
 B.S., Mathematics, Virginia Tech, 1968

**FIELDS OF EXPERTISE:**

Computer Software Systems	Data Processing
System Design and Development	Information Systems Life Cycle
Statistics	Information Systems

**EXPERIENCE:**

Northrop Grumman Mission Systems, Vice President, 2001-Present  
 Independent Consultant, 2001  
 American Red Cross, Sr. Vice President and Chief Information Officer, 1994-2001  
 Merck Research Laboratories, Senior Director, Worldwide Clinical Information Systems, 1990-1994  
 BDM International, Technical Director, 1985-1991  
 Information Systems, Inc., Founder and President, 1983-1985  
 Ferox Microsystems, Inc., Vice President for Research and Development, 1981-1983  
 U.S. Energy Information Administration, Director, Industrial Data Division, and Chief Statistician, Office of Consumption Data Systems, 1978-1981  
 Princeton University, Assistant Professor, Statistics, and Senior Investigator, Center for Environmental Studies, 1975-1978  
 University of Texas at San Antonio, Assistant Professor, Mathematics and Computer Science, 1973-1975

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Association for the Advancement of Science

**AWARDS / HONORS:**

Named to "CIO 100", CIO Magazine / CIO.com, Value Chain Management, 1998  
 Nominated 3 times for the Computerworld-Smithsonian Technology Innovator Award, 1997-1999  
 Finalist, IKON Office Solutions Technology Innovator of the Year, 1998



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**EDUCATION:**

Ph.D. (ABD), Operations Research, University of Delaware, 1993  
 M.S., Statistics, University of Delaware, 1993  
 Distinguished Graduate, Army Operations Research Systems Analysis for Military Applications, Ft. Lee, VA, 1987  
 B.S., Mathematics, Towson University, 1987  
 B.A., German and Philosophy, Gettysburg University, 1971

**FIELDS OF EXPERTISE:**

Mathematics	Military Operations Research
Munitions Effectiveness	Statistics
System Effectiveness	Operations Research
Simulation	System Analysis

**EXPERIENCE:**

ORSA Corporation, President, 2002-Present  
 U.S. Army, Aberdeen Proving Ground / Army Materiel Command, Armor Analysis Operations Research Analyst, 1986-2002  
 Principal / Proprietor, Bradford James Associates (small business computer solutions), 1984-1986

**PROFESSIONAL / SCIENTIFIC / HONORARY SOCIETIES:**

American Statistical Association  
 Army Alliance (Supporting Aberdeen Proving Ground)  
 Northeast Maryland Technology Council  
 Association of the United States Army  
 National Defense Industrial Association  
 Governing Member, Baltimore Symphony Orchestra  
 National Eagle Scout Association

**AWARDS / HONORS:**

U.S. Army Materiel Systems Analysis Activity, Commander's Award for Exceptional Service, 2002  
 Baltimore Federal Employees Supervisor of the Year, Silver Medal, 2001  
 Department of the Army Civilian Achievement Award, Headquarters, Army Materiel Command, 1997



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**GEN John Tilelli (USA, Ret.)**  
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228 Beachside Cove  
Locust Grove VA 22508-  
Phone: (540) 972-4245  
FAX: (540) 972-4245  
E-MAIL: hmw111@aol.com

**Ms. Deborah Westphal**  
Toffler Associates  
302 Harbor's Point  
40 Beach Street  
Manchester MA 01944-  
Phone: (978) 526-2444 225  
FAX: (978) 526-2445  
E-MAIL: dwestphal@toffler.com

**Mr William Witt**  
442 Bluegrass Lane  
Fincastle VA 24090-  
Phone: (540) 992-3166  
E-MAIL: betsnw3@aol.com

**HISTORICAL  
INFORMATION**

**Past Army Science Board Chairs**

- Dr. James A. Tegnalia**  
2004-2005
- Dr. Joseph V. Braddock**  
2002-2004
- Mr. Michael J. Bayer**  
1998-2002
- Dr. Michael Frankel**  
1996 - 1998
- Dr. Wilson K. Talley**  
1995 - 1996
- Dr. Walter B. LaBerge**  
1992 - 1995
- Mr. James Jacobs**  
1991 - 1992
- Dr. Duane A. Adams**  
1990 - 1991
- Dr. Dennis R. Horn**  
1989 - 1990
- Mr. Gilbert F. Decker**  
1987 - 1989
- Dr. Irene C. Peden**  
1986 - 1987
- Dr. Wilson K. Talley**  
1983 - 1986
- Dr. Richard A. Montgomery**  
1981 - 1983
- Dr. J. Ernest Wilkins Jr.**  
1978 - 1981

**Past Army Scientific Advisory Panel Chairs**

- Dr. Bruce A. Reese**  
1976 - 1977
- Mr. Lawrence H. O'Neill**  
1971 - 1976
- Dr. Harold M. Agnew**  
1966 - 1970
- Dr. Finn J. Larsen**  
1965
- Dean Morrrough P. O'Brien**  
1961 - 1964
- Dr. Clifford C. Furnas**  
1960 - 1961
- Dr. James W. McRae**  
1960
- Mr. Richard S. Morse**  
1958 - 1959
- Dr. Frederick L. Hovde**  
1956 - 1957
- Dr. James R. Killian, Jr.**  
1951 - 1956



**Dr. Killian** being sworn in as presidential science advisor in 1957.



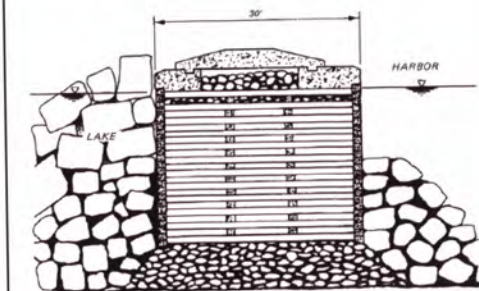
**Dr. Furnas**, former University of Buffalo chancellor and president, ran in the finals of the 5000-meters in the 1920 Olympic Games in Antwerp.



**Dr. Hovde** was sent to London during the blitz as one of only four Americans to be entrusted with all U.S.-British technical secrets, afterwards supervising the entire U.S. rocket-development program.



**Dean O'Brien** was the founder of modern coastal engineering.





On August 6, 1945, **Dr. Agnew** flew as a member of the scientific team on the Great Artiste, the instrument plane that accompanied the Enola Gay on its nuclear weapon strike against Hiroshima.



**Dr. Wilkins, Jr.** was the second African American member of the National Academy of Engineers. One of his major achievements has been the development of radiation shielding against gamma radiation emitted by nuclear decay.



In 1970, **Dr. Peden** became the first U.S. woman to venture into the interior of Antarctica. With support from the National Science Foundation (NSF), Peden and her research students conducted theoretical studies and developed new methods for measuring the electromagnetic properties of the Antarctic ice sheet and of the physically inaccessible underlying terrain.



**Dr. LaBerge** (left) photographed on July 1, 1974, before flying an SR-71 with speeds more than Mach 3.

**Past Army Science Board  
Executive Secretaries**

**COL Jeffrey D. Willey**  
2002-2004

**COL Kevin Dietrick**  
2001-2002

**COL Damian Bianca**  
2000-2001

**COL Leonard Gliatta**  
1996-2000

**COL Herbert J. Gallagher**  
1993-1996

**COL Barry W. Levine**  
1991-1993

**COL Bruce A. Braun**  
1990-1991

**COL Thomas E. Stalzer**  
1989-1990

**COL Richard E. Entlich**  
1987-1988

**Mr. Ronald A. Mlinarchik**  
(Executive Director)  
1982-1986

**COL Roger Mickelson**  
1979-1981

**Past Army Scientific Advisory  
Panel Executive Secretaries**

**LTC E. F. Imler**  
1976-1977

**LTC Aubra N. Bone**  
1974-1976

**LTC John G. Burbules**  
1972-1973

**LTC William P. Boyd**  
1971-1972

**LTC James R. Fuller**  
1970-1971

**LTC Edward E. Roderick**  
1969-1970

**LTC Wayne D. Miller**  
1968-1969

**LTC Joseph E. Fix, III**  
1966

NOTE: This historical list is not complete yet. Several gaps exist in the historical records maintained in the ASB office, especially for information prior to 1966.

## Army Scientific Advisory Panel and Army Science Board Members

Dr. Duane A. Adams (1986-1991; Chair 1990-1991)  
 Dr. E. Allen Adler (2004-Present)  
 Dr. Harold M. Agnew (1964-1970; Chair 1966-1970)  
 Dr. Frank H. Akers, Jr. (1999-Present; Acting Chair 2005-Present)  
 Dr. Arthur J. Alexander (1980-1982)  
 Dr. Martin Alexander (1987-1992)  
 Dr. Amy E. Alving (1996-1998)  
 Dr. James B. Angell (1968-1975)  
 Dr. Carl Marvin Applewhite (1992)  
 Dr. Walter J. Atkins (1999-2002)  
 VADM Albert J. Baciocco, Jr. (USN, Ret.) (1996-1998)  
 LTG Robert J. Baer (USA, Ret.) (1984-1989)  
 Dr. W.R.G. Baker (1954-1960)  
 Dr. John D. Baldeschwieler (1965-1971)  
 Dr. Ira L. Baldwin (1959-1965)  
 Dr. Delbert S. Barth (1984-1990)  
 Dr. Rhoda Baruch (1978-1980)  
 Mr. Albert W. Bayer (1986-1989)  
 Mr. Michael J. Bayer (1990-1992; Chair 1998-2002)  
 Dr. Stanhope Bayne-Jones (1954-1964)  
 Dr. Robert A. Beaudet (1970-1980)  
 Mr. Buddy G. Beck (1996-2001; 2004-Present)  
 Dr. Nicholas A. Begovich (1983-1989)  
 Dr. Harwood S. Belding (1958-1970)  
 Mr. Lawrence D. Bell (1956)  
 Dr. Sue E. Berryman (1995-1997)  
 LTG Austin W. Betts (USA, Ret.) (1971-1981)  
 Dr. John Blair (1982-1984; 1986-1990; 1997-2004)  
 GEN George S. Blanchard (USA, Ret.) (1981-1985)  
 Dr. Hendrik W. Bode (1956-1969)  
 Dr. Seth Bonder (1973-1979; 1981-1988; 1999-2004)  
 Mr. Dean C. Borgman (1992-1994)  
 Dr. Jack R. Borsting (2002-Present)  
 Dr. Paul Bracken (1994-1996)  
 Dr. Joseph V. Braddock (1976-1984; 1994-2004; Chair 2002-2004)  
 Mr. Tony Braddock (2003-Present)  
 Dr. Edward C. Brady (1988-1994; 1997-2004)  
 Dr. Marygail K. Brauner (1988-Present)  
 Dr. Earl D. Brill, Jr. (1984-1990)  
 Mr. William M. Brogan (1984-1989)  
 Dr. Detlev W. Bronk (1951-1958)  
 Mr. Burton P. Brown, Jr. (1968-?)  
 Dr. Ralph Brown (1954-1960)  
 Dr. William M. Brown (1981-1985)  
 Mr. William P. Brown (1991-1998)  
 Mr. Herbert W. Browne (1984-1985)  
 Dr. Robert B. Buchanan (1986-1988)  
 Mr. William Wesley Bumpus (1981-1987)  
 LTG Jerry Max Bunyard (1990-1992)  
 Mr. George F. Butts (1988-1989)  
 Dr. John H. Cafarella (1990-1998)

Dr. Ali B. Campbel (1967-1972)  
 Dr. Crystal C. Campbell (1988-1995)  
 LTG William H. Campbell (USA, Ret.) (2004-Present)  
 Dr. Gregory H. Canavan (1995-2002)  
 Dr. Leonard Carmichael (1965)  
 Dr. Paul W. Caro (1986-1989)  
 GEN Leonard F. Chapman (USMC, Ret.) (1979-1989)  
 Dr. Gail Charnley (1987-1994)  
 Dr. Harold E. Cheatham (1979-1985)  
 Dr. Paul F. Chenea (1968-1972)  
 Dr. W. Peter Cherry (1988-1995)  
 Dr. Inderjit Chopra (1997-2002)  
 Dr. John D. Christie (1981-1988)  
 Dr. David S.C. Chu (1999-2001)  
 Mr. John C. Cittadino (1994-2000)  
 Dr. Christine E. Clark (1981-1984)  
 Dean Kenneth E. Clark (1966-1980)  
 Dr. Stephen D. Clement (2004-Present)  
 Dr. Rankin A. Clinton, Jr. (2004-Present)  
 Dr. Mary E. Clutter (1987-1991)  
 Dr. Theodore Cooper (1981-1987)  
 Dr. Thomas E. Cooper (1986-1990)  
 Dr. Kenneth H. Cooper (1984-1986)  
 Mr. L. Neale Cosby (2003-Present)  
 Dr. Leonard S. Cottrell (1956-1958)  
 Dr. R. Adams Cowley (1981-1982)  
 Dr. Meredith P. Crawford (1971-?)  
 Dr. Walton Wright Curl (1994-1996)  
 Dr. Anthony Curreri (1965-1973)  
 Dr. Malcolm R. Currie (1992-1994)  
 Dr. Howard C. Curtiss, Jr. (1979-1982)  
 Mrs. LeGree S. Daniels (1984-1989)  
 Ms. Christine B. Davis (1997-2000)  
 Mr. Gilbert F. Decker (1984-1989; Chair 1987-1989)  
 Dr. Lawrence J. Delaney (1973-1977; Vice Chair 1976-1977; 1981-1988; Vice Chair 2004-Present)  
 Dr. Phil DePoy (1976-1980)  
 Dr. J. Philip M. Diamond (1988-1995)  
 Mr. R. Gary Diaz (1993-1996)  
 Dr. Philip C. Dickinson (1988-1995; 1997-Present)  
 Dr. Herbert H. Dobbs (1994-1998; 2003-Present)  
 Dr. James C. Dobson (1984-1987)  
 Mr. Robert Dodd (2003-Present)  
 Dr. Robert E. Douglas (1994-2001; 2004-Present)  
 Dr. Joseph D. Douglass (1981-1984)  
 Dr. C.S. Draper (1956-1971)  
 MG Charles F. Drenz (USA, Ret.) (1996-2001)  
 Mr. Phil R. Drouilhet, Jr. (1987-1991)  
 Dean John R. Dunning (1956-1967)  
 Prof Enoch J. Durbin (1968-1975)  
 Dr. James R. Durig (1987-1991)  
 Mrs. Nancy Bearg Dyke (1983-1989)

Mr. Alvin R. Eaton (1981-1986; 1989-1994; 2003-2005)  
 Dr. B. David Edens (1987-1992)  
 Ms. Helaine G. Elderkin (1995-1998)  
 Dr. David D. Elliott (1981-1988)  
 Mr. Charles W. Ellis (1970-1975)  
 Dr. Kary C. Emerson (1979-1982)  
 Dr. Edwin B. Erickson (1994-1996)  
 Dr. Donald E. Erwin (1979-1981)  
 Dr. Leobardo F. Estrada (1999-2001)  
 Dr. Thelma Estrin (1981-1982)  
 Dean William L. Everitt (1956-1970)  
 Dr. William H. Evers, Jr. (1990-1994; 1996-1998)  
 Dean Ralph E. Fadum (1959-1981)  
 Dr. W. Michael Farmer (1994-1996)  
 Dr. John Farr (2004-Present)  
 Dr. Andrew G. Favret (1984-1990)  
 Mr. Bran Ferren (1995-2002)  
 Dr. Antonio Ferri (1963-1975)  
 Mr. Francisco A. Figueroa (1999-2004)  
 Mr. Milt Finger (2003-Present)  
 Mr. Donald G. Fink (1971-1975)  
 Mr. Carl B. Fischer (1998-2004)  
 Dr. James Richard Fisher (1002-Present)  
 Dr. Ivan Flores (1969-1971)  
 Dr. John Foster (1994-1996)  
 Dr. John S. Foster (1958-1965)  
 Mr. David L. Fowler (1999-2004)  
 Mr. Joseph M. Fox (1990-1995)  
 Dr. Phillip H. Francis (1986-1990)  
 Dr. Joseph S. Francisco (1997-1999)  
 Dr. Michael S. Frankel (1992-1998; Chair 1996-1998)  
 Mr. Donald C. Fraser (1986-1990)  
 Dr. Rene Marie Fredrickson (1985-1990)  
 Mr. Jerome S. Freedman (1979-1986)  
 Dr. David L. Fried (1968-1986; 1994-1996)  
 Mr. Richard E. Friedman (1983-1987)  
 LTG Paul E. Funk (USA, Ret.) (1996-2004)  
 Dr. Clifford C. Furnas (1954-1955; 1958-1969; Chair 1960-1961)  
 Mr. Jerome S. Gabig, Jr. (1999-2004)  
 Dr. Carroll B. Gambrell (1965-1976)  
 Dr. Max Garbuny (1965-1972)  
 Dr. Antoine M. Garibaldi (1979-1982)  
 Mr. Tyler E. Gass (1994-2001)  
 Mr. Howard P. Gates, Jr. (1971-1976)  
 Dr. Glenn Gaustad (1981-1987)  
 LTG James M. Gavin (USA, Ret.) (1963-1965)  
 Dr. Valerie J. Gawron (2003-Present)  
 Mr. Harvey Gaylord (1957-1959)  
 Dr. Edward T. Gerry (1994-1999)  
 Prof Alfred Gessow (1986-1990)  
 Dr. Barbara P. Glacel (1986-1989)  
 Dr. Larry Gladney (1996-2001)  
 Mr. Gary Glaser (2003-Present)  
 Mr. Michael E. Gluhareff (1959-1961)  
 Dr. Gerald D. Godden (1989-96)  
 Dr. Harry J. Goett (1976-1980)  
 Mr. Martin Goland (1965-1967)

Dr. Jacob E. Goldman (1965-1971)  
 Dr. Lester M. Goldsmith (1957-1965)  
 Mr. Abraham Golub (1979-1982)  
 Dr. E.I. Gordon (1970-1971)  
 Mr. Abraham Meu Sen Goo (1988-1990)  
 GEN Paul F. Gorman (USA, Ret.) (2004-Present)  
 Dr. Meredith C. Gourdine (1986-1991)  
 Mr. Alfred Grasso (2004-Present)  
 Dr. Alvin C. Graves (1957-1965)  
 Dr. Christopher C. Green (1987-1996)  
 Ms. Kim R. Green (1992-1994; 1996-1998)  
 Mr. Crawford H. Greenwalt (1951-1956)  
 Dr. Lynn G. Gref (1994-2002)  
 Mr. Everett D. Greinke (2002-Present)  
 Prof David T. Griggs (1965-1976)  
 Dr. Paul M. Gross (1963-1970)  
 Dr. Allen F. Grum (1988-1995)  
 Mr. John H. Gully (2003-Present)  
 Mr. Marvin R. Gustavson (1968-1976)  
 Dr. George I. Haddad (1990-1992)  
 Mr. Robert E. Hage (1965-1967)  
 Mr. James H. Hait (1957-1959)  
 Dr. Richard L. Haley (1989-1996)  
 Dean David Halliday (1965-1967)  
 Dr. William R. Hamel (1988-1995)  
 VADM William J. Hancock (USN, Ret.) (2003-Present)  
 Dr. Terry D. Hand (1994-1999)  
 Dr. Vincent S. Haneman (1967-1976)  
 Rev Philip M. Hannan (1984-1987)  
 Mr. William H. Hansen (2003-Present)  
 Mr. David C. Hardison (1990-1995)  
 Dr. Harry F. Harlow (1954-1965)  
 Dr. John Navarro Harris (1981-1985)  
 Dr. Wesley L. Harris (1979-1985; 1988-1994)  
 Dr. Elmer O. Hartig (1979-1984)  
 Mr. Frederick E. Hartman (1989-1996)  
 Dr. Richard L. Hartman (1990-1997)  
 Dr. Francis J. Harvey (1999-2001)  
 Mr. Robert G. Haslam (1951-1960)  
 Mr. Ralph E. Hawes, Jr. (1983-1984)  
 Mr. Willis M. Hawkins (1957-1963; 1967-1980)  
 Dr. George H. Heilmeyer (1978-1980)  
 Dr. Roger P. Heinisch (1990-1995)  
 Dr. Thomas H. Henriksen (1984-1989)  
 Dr. Theodore S. Hermann (1978-1980)  
 Mr. Gilbert V. Herrera (2002-Present)  
 Mr. Arthur I. Hersh (1990-1994)  
 Dr. Robert L. Hess (1972-1976)  
 Dr. Albert G. Hill (1956-1958)  
 Ms. Ava L. Hilton (1999-2001)  
 Mr. Wilbur S. Hinman, Jr. (1963-1967)  
 Dr. Charles B. Hitchcock (1961-1967)  
 Dr. Yu-Chi Ho (1968-1975)  
 Dr. Thom J. Hodgson (1994-1997)  
 Dr. Mark A. Hofmann (1997-2004)  
 Dr. Kurt Hohenemser (1970-1972)  
 Dr. Herbert Holloman (1960-1963)  
 Mr. Marvin R. Holter (1986-1991)  
 Mr. John G. Holstrom (1960-1966)

Dr. John F. Holzrichter (1998-2004)  
Dr. Richard C. Honey (1979-1984)  
Mr. Jack I. Hope (1968-1973)  
Dr. Robert E. Hopkins (1967-1972)  
Dr. Dennis R. Horn (1983-1990; Chair 1989-1990)  
Dr. Henry G. Houghton (1960-1967)  
Dr. Frederick L. Hovde (1951-1960; Chair 1956-1957)  
Mr. William M. Hubbard (1986-1990)  
Mr. George J. Huebner, Jr. (1972-1975)  
Dr. Richard O'Neil Hundley (1972-1976)  
Dr. William A. Hunt (1956-1965)  
Dr. Anthony K. Hyder (1998-2004)  
Dr. William M. Isbell (2004-Present)  
Mr. John B. Jackson (1968-1970)  
Mr. James Jacobs (1987-1993; Chair 1991-1992)  
BG Avon James (USAF, Ret.) (2004-Present)  
Ms. F. Suzanne Jenniches (2002-2004)  
Mr. David A. Johnson (1986-1990)  
Mr. Robert A. Johnson (1973-1976)  
Mr. Robert L. Johnson (1978-1980)  
Mr. John D. Johnston (1989-1996)  
Dr. Edward R. Jones (1983-1988)  
Dr. Jeanette Jones (1992-1998; 2004-Present)  
Mrs. Iris M. Kameny (1991-1998)  
Mr. Phillip Karber (1978-1980)  
Dr. Alan F. Karr (1991-1997)  
GEN Donald R. Keith (USA Ret.) (1992-1998)  
Mr. Kaufman T. Keller (1951-1966)  
Dr. Donald A. Kelly (2002-Present)  
Dr. James R. Kelsey (1991-1996)  
Mr. Frank Kendall (1996-2004)  
Dr. Perry E. Kendall (1970-1974)  
Mr. Richard C. Kerr (1957-1959)  
GEN Walter T. Kerwin (USA, Ret.) (1978-1980)  
Mr. John G. Kester (1995-1997)  
Dr. James R. Killian (1951-1957; Chair 1951-1956)  
Dr. Charles N. Kimball (1967-1972)  
Dr. George E. Kimball (1954-1958)  
Dr. Gilbert W. King (1965-1973)  
Mr. Michael A. Kirby (2004-Present)  
Dr. Lester E. Klim (1958-1960)  
Dr. John W. Knapp (1983-1987)  
Dr. Ira Kohlberg (2003-Present)  
Dr. Alan C. Kolb (2004-Present)  
Mr. Kalle R. Kontson (1998-2004)  
Dr. Wade M. Kornegay (1990-1997; 2004-Present)  
Dr. Steven E. Kornguth (2004-Present)  
Mr. Kurt M. Kovach (2003-Present)  
Dr. Michael D. Krause (1997-2004)  
VADM Alexander J. Krekich (USN, Ret.) (1999-2001)  
Mr. Kent Kresa (1978-1980)  
GEN Frederick J. Kroesen (USA, Ret.) (1989-1990)  
Mr. Howard S. Krosser (1990-1992)  
Dr. Paul W. Kruse, Jr. (1965-1980; 1987-1989)  
Mr. Ira F. Kuhn, Jr. (2003-Present)  
Ms. Nancy E. Kunkle (1997-1999)  
Dr. Robert H. Kupperman (1979-1986)  
Mr. Robert B. Kurtz (1983-1988)

Dr. Walter B. Laberge (1983-1988; 1992-1997; Chair 1992-1995)  
Mr. Richard Ladd (2003-Present)  
Ms. Frances J. Laidlaw (1985-1989)  
Dr. Howard Laitin (1990-1992)  
Dr. Richard M. Langendorf (1979-1984)  
Dr. Finn J. Larsen (1963-1965; Chair 1965; 1969-1971)  
Mr. Harry T. Larson (1987-1991)  
Dr. Marvin E. Lasser (1966-1976)  
Ms. Joanna T. Lau (1999-2001)  
Dr. Chales C. Lauritsen (1951-1968)  
Mr. Ray L. Leadabrand (1994-2001)  
MG Edmond H. Leavey (USA, Ret.) (1954-1958)  
Dr. Peter Lee (1996-2003)  
Dr. Sung M. Lee (1990-1996)  
Dr. Stephen M. Leibholz (1981-1985)  
Dr. Elliott C. Levinthal (1988-1990)  
Mr. Walter J. Levison (1978-1980)  
Ms. Ginger E. Lew (2002-2004)  
Mr. Richard B. Lewis, II (1986-1992)  
MG Vernon B. Lewis, Jr. (USA Ret.) (1990-1996)  
Dr. Herbert L. Ley, Jr. (1965-1975)  
Mr. Andrew Anthony Lieber (1981-1987)  
Dr. Judith Liebman (1997-1999)  
Dr. Hua Lin (1978-1980)  
GEN James J. Lindsay (USA Ret.) (1990-1994)  
Mrs. Harriett Helene Little (1983-1986)  
Dr. Robert M. Lockerd (1971-1976)  
Dr. Robert G. Loewy (1991-1992)  
Mr. Russell H. Logan (1994-1996)  
Mr. Milton Lohr (1981-1987; 1991-1992)  
Dr. Andrew Longacre (1957-1972)  
Ms. Susan G. Lowenstam (1995-2000)  
LTG Robert J. Lunn (USA, Ret.) (1985-1990)  
Dr. Jasper Lupo (2004-Present)  
Dr. Penn Lupovich (M.D.) (1994-1997)  
Mr. Verne L. Lynn (1988-1992)  
Mr. John B. Macauley (1957)  
Dr. Colin M. MacLeod (1958-1961)  
GEN David M. Maddox (USA, Ret.) (2003-Present)  
Mr. Charles L. Malone (1989-1996)  
Dr. Michael Martin Mann (1985-1989)  
Dr. Hans Mark (1994-1997)  
Dr. John J. Martin (1978-1980)  
Dr. William H. Martin (1959-1971)  
Mr. David R. Martinez (1999-2004)  
Dr. Thomas W. Mastaglio (1994-1998)  
Dr. Fujio Matsuda (1978-1980)  
Mr. John M. Matsumura (2003-Present)  
Ms. Naomi McAfee (1983-1989)  
Dr. Roger L. McCarthy, P.E. (1995-1997)  
Dr. James W. McCauley (1994-1996)  
Dr. Ernest J. McCormick (1959-1969)  
Mr. Robert L. McDaniel (1981-1987)  
Dr. Daniel F. McDonald (1981-1987)  
Dr. Frank C. McGrew (1958-1964)  
Mr. Gordon C. McKeague (1983-1984)  
Dr. Thomas R. McKnight (1998-2002)  
Dr. Gary L. McKown (1994-2001)

Mr. James S. McLeod (1985-1990)  
Dr. William G. McMillan (1969-1975)  
Dr. James W. McRae (1956-1960; Chair 1960)  
Dr. Russell G. Meyerand (1970-1974)  
Mr. Edward A. Miller (1984-1989)  
Dr. James G. Miller (1978-1980)  
Dr. Laura L. Miller (2004-Present)  
Mr. Paul J. Jr. Miller (1981-1984)  
Prof Rene' H. Miller (1966-1974)  
LTG John E. Miller (USA, Ret.) (1999-2001)  
Mr. Ronald A. Mlinarchik (1983-1986)  
Dr. Felipe J. Montero (1970-1973)  
Dr. A. Bruce Montgomery (1990-1996)  
Dr. Richard A. Montgomery (1968-1976; Vice Chair 1970-1975; 1977-1983; Chair 1981-1983)  
Mr. John R. Moore (1981-1988)  
Mr. Robert A. Moore (2004-Present)  
Dr. Terris Moore (1959-1970)  
Dr. Reynaldo Morales (1999-2004)  
VADM William J. Moran (USN, Ret.) (1978-1980)  
Mr. David H. Morrison (2000-2002)  
Dr. L. Warren Morrison (1980-1987; 1997-2004)  
Dr. Richard S. Morse (1954-1959; Chair 1958-1959; 1961-1967)  
Prof Charles C. Moskos, Jr. (1971-1973)  
Dr. Prasanna G. Mulgaonkar (2001-Present)  
Dr. Ken Muneoka (1997-1999)  
Dr. Eger V. Murphee (1955-1957)  
Dr. William D. Murray (1965-1976)  
Mr. Thomas J. Murrin (1978-1980)  
Dr. Samuel Musa (1998-2002)  
Dr. James A. Myer (1998-2002)  
Dr. Charles T. Nardo (1995-2001)  
Dr. William J. Neal (1992-1998; 2004-Present)  
Dr. Gary R. Nelson (1999-2001)  
MG K.D. Nichols (USA, Ret.) (1956-1967)  
Mr. Roy J. Nichols (1994-2001)  
Prof John D. Nicolaidis (1971-1974)  
Dr. A.A. Nikolsky (1956-1963)  
LTG Max W. Noah (USA, Ret.) (2004-Present)  
Dr. Daniel E. Noble (1957-1969)  
Dr. Jerre D. Noe (1985-1990)  
Dr. Albert W. Noyes, Jr. (1954-1965)  
Dr. Walter J. Nungester (1957-1969)  
Dr. Kelly O'Brien (1999-2001)  
Dean Murrrough P. O'Brien (1951-1974; Chair 1961-1964)  
Dr. Bernard M. Oliver (1965-1969)  
Dr. John Frederick Ollom (1981-1985)  
Mr. Vernon E. Olson (1988-1994)  
Dr. Russell D. O'Neal (1970-1982)  
Dr. Harold F. O'Neil, Jr. (1994-2001)  
Mr. Lawrence H. O'Neill (1965-1976; Chair 1971-1976)  
GEN Glenn K. Otis (USA, Ret.) (1989-1996)  
LTG Charles P. Otstott (USA, Ret.) (2002-Present)  
Mr. H. Wayne Pacine (1987-1991)  
Mr. James A. Parker (1984-1987)  
Mr. Robert N. Parker (1993-1995; 2004-Present)  
Dr. Paul F. Parks (1987-1992)

Dr. W. George Parks (1954-1967)  
Dr. M. Elisabeth Pate-Cornell (1995-1997)  
GEN John W. Pauly (USAF RET.) (1987-1997)  
Dr. Paul G. Pearson (1984-1985)  
GEN J. H. Binford Peay, III (USA, Ret.) (1999-2001)  
Dr. Irene C. Peden (1979-1987; Chair 1986-1987; 1996-2001)  
Dr. Roberta-Diane J. Perna (2002-Present)  
Dr. Richard E. Pesqueira (1978-1980)  
Dr. Ernest N. Petrick (1983-1989)  
Dr. Karen D. Pettigrew (1981-1986; 1991-1997)  
Dean Joseph M. Pettit (1957-1967)  
Mr. Robert R. Phillips (1995-1999)  
Dr. William H. Pickering (1960-1965)  
Dr. George Piegari (1987-1992)  
Dr. Percy A. Pierre (1985-1989)  
LTG Donald S. Pihl (USA Ret.) (1989-1996)  
Dean R. Byron Pipes (1987-1991)  
Dr. Stephen M. Pollock (1994-1997)  
Dr. Edward J. Powers (1987-1991)  
Dr. Allen E. Puckett (1965-1969)  
Dr. Nathaniel R. Quick (1994-1996)  
Mr. Srinivasan Rajagopal (2000-2004)  
BG James R. Ralph, Jr. (USA, Ret.) (2004-Present)  
Mr. Erling E. Rasmussen (1994-1999)  
Mr. Keith R. Rathjen (1983-1988)  
Dr. Richard C. Raymond (1965-1970)  
Dr. Edward K. Reedy (1994-1996; 2000-2004)  
Dr. Bruce A. Reese (1968-1977; Chair 1976-1977)  
Mr. John H. Reese (1998-2004)  
Dr. Gerhard Reethof (1972-1978)  
Ms. Brenda Reichelderfer (1995-1997)  
Mr. William E. Regan (1985-1989)  
Mr. Kenneth M. Renfro (1970-1973)  
Dr. James J. Renier (1968-1978)  
Dr. Harry L. Reynolds (1985-1987)  
Dr. W. Foster Rich (1990-2000; Vice Chair 1996-2000)  
Dr. Leon Riebman (1983-1988)  
LTG Randall L. Rigby (USA, Ret.) (2005-Present)  
Dr. Robert F. Rinhart (1957-1959)  
MR. John D. Rittenhouse (1991-1998)  
Dr. Gabriel Robins (1998-2001)  
Dr. Elizabeth J. Rock (1981-1987; 1989-1995)  
Dr. John H. Rohrer (1958-1959)  
Dr. Thomas P. Rona (1981-1982; 1990-1997)  
Dr. William L. Root (1978-1982)  
Dr. B. Walter Rosen (1992-1994)  
Mr. C. G. A. Rosen (1957-1961)  
Dr. Jack Rosengren (1966-1970)  
LTG Marion C. Ross (USA, Ret.) (1984-1990)  
Dr. William A. Rostoker (1973-1977)  
Mr. Robert G. Roush (1988-1991)  
Dr. Joseph E. Rowe (1984-1990; 1995-2000)  
Dr. Robert W. Russell (1958-1965)  
Dr. John D. Ryder (1957-1959)  
GEN Crosbie E. Saint (USA Ret.) (1996-1998)  
GEN Leon E. Salomon (USA, Ret.) (1999-2004)  
Mr. Juan Sandoval (1978-1980)



Mr. Joseph P. Santarelli (2004-Present)  
Dr. W. James Sarjeant (1994-2001)  
Dr. Stanley J. Sarnoff (1981-1987)  
Dr. Carlton G. Savory (1989-1991)  
Mr. William F. Seanlin (1981-1988)  
Dr. Donald L. Schilling (1987-1988)  
Sen Harrison Hagan Schmitt (1985-1990)  
Dr. Daniel P. Schrage (1986-1990)  
Dr. John L. Schwab (1965-1973)  
Mr. Alan R. Schwartz (2002-Present)  
Dr. L. Albert Scipio (1978-1980)  
Dr. Jay R. Sculley (1990-1992)  
GEN Robert W. Sennewald (USA, Ret.) (1987-1990)  
Mr. Alan Z. Senter (1999-2004)  
Dr. Tito T. Serafini (1987-1991)  
Dr. Joyce Lee Shields (1989-1996)  
Dr. William Shockley (1951-1972)  
Mr. David Shore (1979-1984; 1986-1990)  
Dr. P. Phillip Sidwell (1979-1986)  
Mr. Gordon H. Sigman, Jr. (1991-1995)  
Dr. Allan D. Simon (1978-1980)  
MG L. E. Simon (USA, Ret.) (1963-1970)  
LTG Charles J. Simmons (1984-1987)  
Mr. George T. Singley, III (2002-Present)  
Dr. Ralph G. H. Siu (1971-1976)  
Dr. Hector R. Skifter (1960-1964)  
Dr. James C. Smith (1985-1989)  
Mr. Fred L. Smith (1983-1984)  
Mr. Alan Smolen (1985-1990)  
MG Charles R. Sniffin (USA, Ret.) (1983-1984)  
Dr. William E. Snowden (1993-1997)  
Dr. Alfred D. Spector (1984-1989)  
Dr. Kenneth W. Spence (1954-1959)  
Dr. William J. Spencer (1978-1980)  
Dr. Joseph Sperrazza (1978-1980)  
MG Laddie L. Stahl (USAR, Ret.) (1979-1986)  
Dr. Elizabeth Stanley-Mitchell (2004-Present)  
Dr. Alfred H. Stanton (1960-1965)  
Dr. Stuart H. Starr (2003-Present)  
GEN Donn A. Starry (USA, Ret.) (2003-Present)  
Dr. Joseph Sternberg (1965-1970; 1981-1982)  
Dr. Edward C. Stevenson (1956-1967)  
Mr. Laurence Storch (1983-1989)  
Mr. John A. Strand, III (1994-1996)  
Mr. Paul A. Strassmann (1994-1996)  
Dr. Julius A. Stratton (1954-1956)  
Dr. Harlee S. Strauss (1994-2001)  
Dr. C. O. Strother (1958-1965)  
Dr. Dora Jean Dougherty Strother (1984-1990)  
Dr. Gene Strull (1978-1982)  
Dr. Derald A. Stuart (1983-1987)  
Dr. Lawrence C. Stuart (1960-1965)  
Dr. John Clay Stuelpnagel (1996-2001)  
Dr. Annette K. Sturdevant (1998-2000)  
Mr. Jerome J. Suran (1984-1986)  
MG L. J. Sverdrup (USAR, Ret.) (1954-1967)  
Dr. Peter Swan (2004-Present)  
Dr. Judith P. Swazey (1986-1992)  
Mr. Randall W. Sweeney (2001-2003)

Mr. Claron W. Swonger ( 28-Oct-96 27-Oct-98 )  
Dr. John H. Talbott ( Dec-58 Jul 60 )  
Dr. Wilson K. Talley (1978-1986; Chair 1983-1986; 1997-1999)  
Dr. Victor K.T. Tang (1978-1980)  
Dr. C. Bruce Tarter (1989-1996)  
Dr. Theodore B. Taylor (1967-1971)  
Dr. James A. Tegnelia (1990-1992; 2002-2005; Vice Chair 2002-2003; Chair 2004-2005)  
Dr. Mary Louise Tenopyr (1984-1987)  
Mr. Gordon Thayer (1957-1958)  
Dr. Gary A. Thiele (1989-1992)  
Dr. Marlin U. Thomas (1990-1998)  
Dr. Brian J. Thompson (1978-1980)  
Dr. Robert L. Thorndike (1957-1959)  
Dr. William C. Tinus (1956-1969)  
Mr. John J. Todd (1990-1997)  
Dr. John R. Tooley (1979-1984)  
Dr. Louis W. Tordella (1983-1988)  
Dr. E. Arthur Trabant (1965-1971)  
Dr. Richard J. Trainor (1983-1986)  
Dr. Harry L. Tredennick (1994-2000)  
LTG Arthur G. Trudeau (USA, Ret.) (1963-1972)  
VADM Richard H. Truly (USN Ret.) (1994-2000)  
Dr. Frank E. Vandiver (1986-1989)  
LtGen Paul K. Van Riper (USMC, Ret.) (1999-2001)  
Dr. William Van Royen (1958-1966)  
Dr. Harry L. Van Trees ( 1991-1993 )  
Dr. David A. VanHorn (1991-1992)  
Dr. John E. Vance (1956-1969)  
Dr. Janet T. Vasak (1990-1997)  
Mr. Charles A. Vehlow (2004-Present)  
Mr. Eugene L. Vidal (1957-1969)  
Dr. Andrew J. Viterbi (1969-1980)  
GEN John W. Vogt (USAF, Ret.) (1983-1985)  
Dr. Ernest H. Volwiler (1960-1967)  
GEN Louis C. Wagner, Jr. (USA Ret)" (1990-1997)  
Dr. Eric A. Walker (1956-1958)  
Dr. S. Rains Wallace, Jr. (1958-1964)  
Mr. Kevin J. Walter P.E. (1995-1997)  
Dr. Ting-I Wang (1999-2001)  
Dr. Charles E. Waring (1956-1960)  
Dr. Michael A. Wartell (1981-1987; 1999-Present)  
Dr. A. Lincoln Washburn (1958-1959)  
Dr. Annetta P. Watson (1996-2001)  
Dr. William S. Watt (1995-1998)  
Dr. Ernest Weber (1957-1969)  
Dr. Harold C. Weber (1954)  
Mr. William Webster (1951-1958)  
Mr. Peter David Weddle (1981-1987)  
Dr. Glen Wegner (1994-2000)  
Dr. Robert E. Weigle (1990-1997)  
Dr. John W. Weil (1981-1984)  
Dr. Peter J. Weinberger (1987-1994)  
LTG Sidney T. Weinstein (USA Ret) (1996-2002)  
Mr. Leonard R. Weisberg (1981-1984)  
Dr. Jerome B. Weisner (1956-1961)  
Dr. Herbert K. Weiss (1966-1974)  
AMB Seymour Weiss (1981-1987)  
Mr. John James Welch, Jr. (1983-1987)

Dr. Gershon Weltman (1994-2001)  
Dr. Robert R. White (1961-1965)  
Dr. Stanley C. White M.D. (1987-1991)  
Dr. J. Ernest Wilkins, Jr. (Chair 1978-1981)  
Prof Robin M. Williams, Jr. (1971-1974)  
Dr. Robert C. Williges (1983-1989)  
Dr. E. Bright Wilson, Jr. (1954-1956)  
Mr. Wayne R. Winton (1994-1998)  
Dr. Richard Wishner (2004-Present)  
Mr. Fred W. Wolcott (1983-1984)  
Prof William L. Wolfe ( 1987-1991 )  
Dr. Joan B. Woodard (2004-Present)  
LTG John W. Woodmansee, Jr. (USA, Ret.) (1991-1997; 2004-Present)  
Dr. Dean E. Wooldridge (1956-1958)  
Dr. Thomas H. Woteki (2004-Present)  
Dr. John C. Wright (1978-1980)  
Dr. Frederick R. Wulsin (1959-1961)  
Mr. Samuel T. Yanagisawa (1985-1989)  
Dr. Joseph H. Yang (1978-1980)  
Dr. Nicholas Yaru (1970-1986)  
Mr. William Yeakel (2004-Present)  
Dr. Herbert F. York (1956-1958)  
Mr. A. Thomas Young (1983-1988)  
Dr. Chris J. D. Zarafonitis (1979-1986)  
Mr. James X. Zeder (1960-1963)  
Dr. Robert S. Ziernicki (1994-2000)  
Mr. Charles H. Zimmerman (1956-1964; 1968-1972)  
Mr. Martin B. Zimmerman (1989-1996)  
Dr. Maurice J. Zucrow (1965-1967)

## Army Scientific Advisory Panel and Army Science Board Studies

### 2005

- Enhancing the Resource Posture of the Future Army
- Electromagnetic Pulse (EMP) Attack Working Group
- System Solutions for Asymmetric Threats to Security and Stability Operations
- Information Operations
- Intelligence Functions within the Joint Urban Operations (JUO)
- Balancing the Force (Modularity)
- Future Force Aerial Systems Capabilities
- Stryker Strategic Deployability

### 2004

- Theater Logistic Distribution
- FCS-Urban-Capabilities
- Force Balance
- Combat ID
- Directed Energy (DE)

### 2003

- Antenna
- Force Protection
- FCS

### 2002

- Science and Technology (S&T) and Research and Development (R&D) Roadmap to Meet Future Army Aviation Needs
- Human Robot Interface Issues
- C4ISR
- Aysmmetric Follow-Up

### 2001

- Robotics
- Manpower & Personnel
- Adapting Future Wireless Technologies
- Venture Capital
- Knowledge Based Management
- Asymmetric Threats
- Countermin Warfare
- The Objective Force Soldier / Soldier Team

### 2000

- Technical and Tactical Opportunities for Revolutionary Advances in Rapidly Deployable Joint Ground Forces in the 2015-2025 Era

### 1999

- Industrial Base for Production of Small Arms
- Full Spectrum Protection for 2025 Era Ground Platforms
- Enabling Rapid and Decisive Strategic Maneuver for the Army Beyond 2010
- Warfighter Information Network Terrestrial (WIN-T)
- Independent Assessment on Technical Maturity of the SWORD Advance Technology Demonstration Program

### 1998

- Joint Warfare System & Joint Simulation System
- Schedule Realism
- Hit-to-Kill Interceptor Lethality, Phase II - B
- Army Solutions to the Year 2000 Problem
- Prioritizing Army Space Needs
- Concepts & Technology for the Army Beyond 2010
- Recruitment, Training and Retention Options to Meet Force Structure Needs Associated with Digitization of the Army
- Risk Assessment for Proposed DoD Range Rule
- De-militarization of the MLRS Rocket Systems
- Army Space Vulnerabilities Assessment
- Impacts of Precision Guided Munitions on Future Tank and Howitzer Capabilities
- Tank Modernization

### 1997

- Maturity of the Aerostat Demonstration Program
- Army Implementation of Technical Architecture
- Army After Next
- Army Avionics Modernization Methodologies
- Human Behavior in Combat
- Technical Architecture for Army C4I
- Outsourcing and Privatization
- Directed Energy Weapons (DEW)
- Overcoming Barriers to the Implementation of Acquisition Reform
- Subject Matter Expert (SME) Judgments in Analysis
- Countermine Science & Technology Program
- Co-Site Interference Mitigation for Command & Control Platforms & OPFACS (C2V)
- Distance Learning
- Battlefield Visualization
- Strategy for Leveraging Commercial Technologies for Future Army Radios
- Theater Air Defense (TAD)/Theater Missile Defense (TMD) Battle Management, Command, Control, Communications & Computers (BMC4I)
- "Phase 2 Study on Hit-to-Kill Interceptor Lethality" Part A: Lethality
- Optimizing Unit Capabilities
- Tactical Wireless Communications
- Global Broadcast Service

### 1996

- Unmanned Ground Vehicles
- Army Simulation Implementation and Use
- Unmanned Aerial Vehicles
- Assessment of Army Signature Reduction Efforts vis-a-vis Counter Stealth Threats (LO/CLO)
- Methodology for Data Analysis for AWEs - AT&E IG
- Army Digitization Information Systems Vulnerabilities & Security
- Operational Architecture
- Army Implementation of the 1994 ASB Summer Study Technical Architecture for Army C4I

- Reengineering the Acquisition and Modernization Processes of the Institutional Army
- The Transition of Technology from the Technology Base to the Customer
- Decisive Infantry Weapons
- Crusader Liquid Propellant Technology
- Army Family Housing
- Evaluation of the Effectiveness of Existing Groundwater Treatment Systems in the U.S. Army
- The Science and Engineering Requirements for Military Officers and Civilian Personnel in the High Tech Army of Today and Tomorrow

### 1995

- Army Research Office, Independent Assessment of
- MRSR and FAAD Ground Based Sensor
- U.S. Army Signals Warfare Laboratory Review
- STINGER-RMP Problem
- U.S. Army Human Engineering Laboratory, Independent
- U.S. Army Research and Technology Laboratories, Independent Review of
- Lab Review - Walter Reed Army Institute of Research
- Technology Forecase for the Key Operational Capabilities (KOC)
- The Use of Army Systems and Technologies in Counternarcotics Efforts
- The Detection of Soviet Theatre Nuclear Forces
- The Army's Soldier System Technology Program and Investment Strategy
- The Army Acquisition Workforce and Science and Engineering -- People, Programs, Policies and Practices
- Requirements for Predicting Outyear Resource Requirements for Maintaining, Repairing, and Operating Army Facilities
- Hit-to-Kill Interceptor Lethality
- The Impact of Information Warfare on Army C4I Systems
- Consolidation of Outdoor Static Radar Cross Section (RCS) Test Facilities
- Fire Suppression Alternatives for Armored Combat Vehicles
- Electronic Gun (EG) Technology
- Remediation of Contaminated Army Sites: Utility of Natural Attenuation

- Operational Test and Evaluation Command (OPTEC)
- Capabilities Needed to Counter Current and Evolving Threats
- Technical Information Architecture for Army Command, Control, Communications and Intelligence
- Innovations in Artillery Force Structure
- Review of Existing Toxicity Data and Human Estimates for Selected Chemical Agents and Recommended Human Toxicity Estimates Appropriate for Defending the Soldier
- Use of Technologies in Education and Training
- Space Systems and Future Army Operations

### 1994

- Unmanned Ground Vehicles
- Evaluating the Performance of Smart Submunitions During Technical Testing
- Missile Defense
- A System For Soliciting and Processing New Ideas/Concepts/Technologies
- Army Housing Management
- Moving Army Tactical Command and Control System (ATCCS) from a Character-Oriented Message System to a Data-Oriented Message System
- Virtual Prototyping for the Army
- X-Rod Guided Kinetic Energy Projectile
- Ground Water Modeling in the Army Environmental Restoration Programs
- A Strategy for Leveraging Commercial Telecommunications and Processing Technologies for Army C3 Systems
- Preservation of Critical Elements of the Small Arms Industrial Base
- Technology for the Future Land Warrior

### 1993

- Maneuver Control System, Independent Technical Review
- Missile Defense Programs
- The Army Materiel Command Research, Development and Engineering Centers
- Liquid Propellant Advanced Field Artillery Systems Follow-On
- Army Materiel Command Research, Development and Engineering Centers (RDECs)

### 1992

- Test & Evaluation Professional Development
- Longbow for Apache and Comanche Helicopters
- Reserve Component Automation System (RCAS) Limited User Test (LUT), Review of
- Mission Kill: Metrics for Combat Damage Accounting
- Comanche International
- Land Warfare Combat Identification
- Command and Control on the Move (C2OTM)
- Initiatives to Improve the Participation of Historically Black Colleges and Minority Institutions (HBCU/MIs) in Army Research, Development and Activities to Strengthen Their Infrastructure
- Manufacture of Depleted Uranium Metal Using a Hydrogen-Plasma Torch
- Artificial Intelligence and Robotics

### 1991

- Reassessment of Technology Planning of Future
- Army Chemical/Biological (C/B) Protective Suit
- Electromagnetic/Electrothermal Gun Technology Development
- Logistics Support and Strategic Deployment during Operation Desert Shield/Storm
- Army Acquisition Workforce and Science and Engineering - People, Programs, Policies and Practices
- Liquid Propellant Advanced Field Artillery System
- C3I: TRADOC Plans
- Tactical Space Systems "Lightweight Tactical Army Satellite Communication System (LTASS (reports to sponsors only))
- Soldier as a System
- Army Simulation Strategy
- Follow On Radio to SINCGARS
- Chemical/Biological Suits
- Air to Air MSL Requirement
- Army Simulation Strategy

### 1990

- Walter Reed Army Institute of Research, Lab Review

- Human Dimensions in Safety
- Army Research & Development Accomplishments, 1940-1990 (Letter Report)
- U.S. Army Research Institute of Environmental Medicine (USARIEM) Laboratory Effectiveness Review (Lab Review)
- Transverse Mounted Engine Propulsion Systems (TMEPS) Independent Assessment (Competition Sensitive)
- Toxic and Hazardous Waste Management
- Impact Information Warfare C4I
- Tactical Applications of Directed Energy Weapons (DEW) Technology (Report will not be published)
- The Use of Army Systems and Technologies in Counter Narcotics Efforts
- International Cooperation and Data Exchange to Enhance the Army's Technology Base
- STINGER Reprogrammable Microprocessor (RMP) (Ltr Report)
- Software in the Army
- Peer Review Panel: "Personnel Quality and the performance of Patriot Air Defense System Operators" Conducted by Rand/Arroyo Center
- War on Drugs
- Harry Diamond Laboratories Eff. Rev. (Laboratory Review)
- Reduction of Operation and Support Costs
- Technical Applications of Directed Energy Weapons (DEW) Technology
- Total Quality Management
- Apache Longbow, Assessment of Technology and Program Risks
- Tactical Explosive System (TEXS)
- Maintaining State-of-the-Art in the Army Command and Control System (ACCS)
- International Cooperation and Data Exchange to Enhance the Army's Technological Base
- Army Analysis

#### 1989

- M9, 9mm Pistol Slide Failure Problem
- U.S. Army Belvoir RDEC, Independent Review of

- Close Combat (HEAVY) Training Strategy for the 1990's
- The Army Community and Their Families
- Space
- Army Technology Base Strategy for the 1990's (Ltr. Rpt.)
- AMC-RDEC
- Army Testing

#### 1988

- Implementing Competitive Strategies
- The Impact of Competition in Contracting on Research and Development
- Combat Modeling
- The Use of Army Combat Models for the Analysis and Training of Joint/Combined Operations
- Threat of Aids on Operational Deployment of Army Forces to a Theater
- AIDS HIV
- Water Supply and Management on Army Installations in the Western United States
- Technology Insertion in Army Systems
- Focal Plane Arrays
- STINGER-RMP Problem
- MRSR and FAAD Ground Based Sensor
- Army Families in Korea
- U.S. Army Aeromedical Research Laboratory, Effectiveness Review of
- U.S. Army Electronics Technology and Devices Laboratory, Review of

#### 1987

- Chemical and Biological Warfare Intelligence Follow-On
- Army Biological Defense Program
- Lightening the Force
- The Environment, Real and Induced, an Army Force Cost Driver
- Force Cost Drivers
- Information Management Concepts and Architecture
- CBWI
- Engineering Topographic Laboratories Eff. Rev. (Laboratory Review)
- Water Resources
- Helicopter Lift Capability
- BMD
- CECOM RD&E Center Effectiveness Review (Laboratory Review)

- Army Bio Defense
- Army Biological Defense Research Program
- Human Cap & Resources
- Army Research Institute for Behavioral and Social Sciences (ARI Laboratory Review)
- Department of the Army Requirements and Lift Capability of Organic Helicopters for Logistics Operations During Combat in Europe
- Weapons System
- Army Armament R&D Eng. Center (ARDEC)(Laboratory Review)

#### 1986

- U.S. Army MICOM RDEC, Independent Review of
- Soldier Research Issues
- Key Operational Capabilities
- C3I Requirements for Airland Battle
- Design of Army Tests 1981 Detection of Soviet Theater Nuclear Forces (Ltr. Report)
- Ballistic Research Lab. (BRL) Effectiveness Review (Laboratory Review)

#### 1985

- Reassessment of Technology Planning of Future Fielded Systems (Update of 1979 Assessment of US-USSR Systems' Technologies)
- Tunnel Detection Prog. A Review of USA Mob. Equip. R&D Cmds (Nat'l Academy of Sciences Report)
- TRADOC Operations Research Activity (TORA), Ad Hoc Subgroup
- TACOM Laboratory Effectiveness Review (Lab. Review)
- Training and Training Technology - Applications for AirLand Battle and Future Concepts
- Manning Implications of Logistics Support for AirLand Battle
- Nondevelopmental C3I Items
- Light Equipment
- Electronic Warfare Lab. Effective Review (Laboratory Review)
- Chemical and Biological Warfare Intelligence (CW/BWI)
- Atmospheric Sciences Laboratory (ASL Laboratory Review)

#### 1984

- The Army's LHX Program
- Technology to Improve Logistics & Weapons Support for Army 21, 1984 Summer Study
- Leading and Manning Army 21, 1984 Summer Study
- Processing Requirements Documents Study
- Intelligent Robotics
- Equipment Upgrade Program
- Combat Medical Support
- Balanced Protection f/the Individual Soldier
- Army Utilization of Space Assets
- Aided Target Recognition (ATR)
- Army Initiative--Equipment Upgrade Program (Ltr.Rpt.)
- Army Decontamination Program
- Army Avionics R&D Activity (AVRADA) Effectiveness Review (Laboratory Review)

#### 1983

- Training Effectiveness Measurements
- Acquiring Army Software
- TOW
- Army Future Development Goal
- Army's Smoke and Obscurants Programs
- Near Implementation of "How to Fight"
- Emerging Human Technologies
- CALCO Water Purifier, Review & Comment on Data Regarding
- Airborne Optical Adjunct and Defense of CSB

#### 1982

- Science and Engineering Personnel
- Chemical Warfare & Bio Def. RDT&E Program
- Summer Faculty Research Program
- Selected Spaces of the Camouflage Systems Procurement Issues
- Army Science Board Roland Ad Hoc Review Subgroup
- Red Cross/Universal Red Blood Cells
- Optical Discrimination of the ASB Panel on BMD
- Manning Army Systems
- Laser Eye Protection

- Indirect Fire Engagement Simulation, Army Efforts to Develop
- Improving the Acquisition Process (32 Carlucci Initiatives)
- Equipping the Army 1990-2000 Follow-on
- The Challenge of Terrorism of the Military
- Camouflage Systems Procurement, Selected Specs. of the
- BMD Subgroup on Active Defense of MX/CSB
- Ballistic Missile Defense
- Armor/Anti-Armor Initiatives
- All Source Analysis Center/or Systems

### 1981

- Testing of Electronic Systems
- Equipping the Army 1990-2000
- National Training Center, The Army
- Fort Hood, Texas Orientation
- Atmospheric Implications Review

### 1980

- Vertical Lift Technology
- Statistical Techniques in Army Test
- High Technology Light Division
- Special Test Exercise Report (AN/TPQ-37 Radar)(Korea)
- Solubilization & Reactions on Colloidal Aggregates
- Night Vision Common Module Review
- Military Computer Family
- MILES Safety, Notes on
- Korean/Alaskan Trip
- Korean Tunnel
- In-House Laboratory Independent Research Review (ILIR)
- Human Issues
- High Frequency/Direction Finding
- European Science & Technology Orientation Trip
- Energy Needs of the Army
- Electronic Time Fuze System
- Army Science Board (ASB) Counter-C3 Working Group, December 11-14, 1979.
- Chemical Systems Lab. Technical Review
- Anti-Tactical Ballistic Missile (ATBM)

### 1979

- Technology Planning of Future Field

- STINGER-POST Review
- Safety of Propellant/Explosive Prod. @ Radford Ammo Plant
- Reforger 1980
- PATRIOT (Independent Review)
- Nuclear Protection for the Soldier
- Military Operations in Build-Up Areas (MOBA)
- Military Computer Family Policy Review
- Investigate Safety at Radford Ammo Plant
- Draper Lab Study
- Evaluation of the Army's Accelerated R & D Program on Chemical Decontamination/ Contamination Avoidance
- Ammunition Inquiry
- Air Defense Studies, Comments on for IRG

### 1978

- U.S. Army Management of Electro-Optical Countermeasure. Hardening of Major and Non-Major Weapon Systems.
- Tactical Battlefield Systems (Joint ASB/AFSAB Study)
- PGMT
- Optical Countermeasures of the ASB
- Electronic Warfare and Intelligence

### 1977

- Smoke as an Optical Countermeasure
- Simulation Research Facility Request: NOE Day-Night Flight Study
- Simulation of NOE
- Remotely Piloted Vehicles (RPVs)
- Product Improvement II
- NIKE-HERCULES Improvements
- Ionization Detection of Chemical Agents for the M8 Automatic Chemical Agent Alarm
- Gun Tube Wear & Erosion Technology
- Federal Assistance to Historically Black Colleges
- CW Agent R&D and Production Capabilities
- Command and Control Systems
- Chemical Ionization Detector Program, Army

### 1976

- Systems Engineering
- Armament, Aviation, Electronic, Mobility & Soldier
- Smoke/Aerosols Program
- Pulsed Reactors
- Particle Beams
- Long Range Forecasting of Future Telecommunications Demands
- Laser Hardened Materials and Structures
- Fire Safe Fuels
- Extreme Natural-Environmental Climatic Testing
- DARCOM'S Use of Reliability Growth Management Technique, Review of
- Climatic Testing
- Biological & Toxin Samples
- Future Aviation Development Center

### 1975

- White Sands Missile Range Instrumentation
- Utilization of Intelligence
- Seismic Sensor Feasibility
- Physical Security
- Non-Cooperative IFF
- LORAN-D Manpack Program
- Logistics Research and Development
- Irradiated Food Program
- Infrared Effort for "Fire & Forget" Missile
- Improved Light Antitank/Assault Weapon (ILAW)
- Fire Suppression
- Equipping the Individual Soldier & Small Unit in the 1980's
- Environmental Quality Control
- DRAGON Hit Probability
- Bushmaster, Javelot Air Defense Gun System

### 1974

- Time Fuel System (Electronic)
- Tactical Data System Software Development
- Technological Solutions to Mission Area Deficiencies and BMD in Post Treaty World
- Summer Study - Mission Area Deficiencies
- Product Improvement I
- Predicting Soldier Success

- Foreign Technology
- Evaluation of SPEF Lab. Plans
- Energy Research and Development
- ECM Vulnerability of SAM-D
- Battlefield Effects

### 1973

- Trace Gas Detection
- Technical Readiness
- SAM-D Communications
- Night/Reduced Visibility Capability for Army Helicopters
- MASSTER
- Improved HAWK
- Hostile Artillery Locating Systems
- Ground Combat Vehicle Mobility
- Chemical Vaccines

### 1972

- Army Electronic Warfare Program
- Modern Volunteer Army
- High Energy Lasers
- Army Utilization of Space Technology

### 1971

- Terminal Homing Programs, Army
- Social Science Program
- MALLARD
- Employment of a Spin Stabilized Artillery Shell to Obtain Reconnaissance Imagery
- Artillery Locating Radar (Counter Battery)

### 1970

- Universal Engineer Tractor
- Summer Study - Military Technology of the 1980 Decade
- Mine Detection/Neutralization
- Correlation of Global Atmospheric Measurement Data to Electromagnetic Sensors

### 1969

- Propulsion Program
- Nuclear Power Program, Army
- Developmental Lead Time
- Cheyenne (AH-56A) Computer
- Active Armor Systems for Combat Vehicles

**1968**

- ASAP Organization & Membership
- Army Research and Development Program
- Vietnam
- Research and Development Program
- Nuclear Effects Research Center, Army
- Geophysical Phenomena, Military Aspects of
- Foliage Penetration Radar Systems
- Design Criteria for Future Armored Vehicles

**1967**

- Ballistic Missile Defense
- Tactical Air Defense, Army
- Psychological Operations, Army
- Activities & Plans Engineer Topographic Lab (ETL), Review of

**1966**

- Combat Vehicle Weapons Systems

**1965**

- Target Acquisition
- Tactical Satellite Communications
- Tactical Automatic Data Processing Systems
- Barrier Research

**1963**

- White Sands Missile Range Modernization

**1960**

- Army Human Factors Engineering in R&D of More Conventional Weapons & Other Equipment Systems