



# *DSB Newsletter*



---

May 2010

---

**Dr. Paul Kaminski, Chairman**

General Lester Lyles, USAF (retired), Vice Chairman

Mr. Brian Hughes, Executive Director

---

## *Chairman's Corner*

Welcome to the Spring Quarterly Meeting.

The 2010 Summer Study on Enhancing Adaptability of our Military Forces (co-chairs Mr. Al Grasso and Dr. Bill LaPlante) is off to a strong start. Both the SECDEF and DEPSECDEF provided inputs to the Terms of Reference (TOR), which has now been signed. The co-chairs have held two plenary meetings, and the five panels have begun developing findings and formulating initial recommendations. We are on track for the out-brief to senior Department of Defense officials at MIT Lincoln Laboratory on 13 August following the 2 – 13 August Summer Study offsite session at the MIT Endicott House in Dedham, Massachusetts.

Alongside the Summer Study, the Task Force on Science and Technology Issues of Early Intercept Ballistic Missile Defense (Gen Les Lyles, ADM Fox Fallon) began meeting. In addition, TORs have been signed recently for the Trends and Implications of Climate Change for National and International Security (Gen Larry Welch, Dr. John Deutch), the Assessment of Nuclear Treaty Monitoring and Verification Technologies (Dr. Mim John, Dr. Don Kerr), and the Role of Autonomy in DoD Systems (Dr. Robin Murphy, Mr. Jim Shields). Other Task Forces ideas are moving forward.

Your continued active involvement is of great value as we provide advice to the Department. I encourage your participation in as many DSB projects as your busy calendars allow.

***Dr. Paul Kaminski***

## Membership

The Board continues to actively solicit suggestions for highly qualified scientific and technical candidate members, with special emphasis on women and minority candidates. Prior Task Force participation offers an individual, OSD, and the Board an opportunity to determine a person's interest and suitability to Board activities and is a desirable prerequisite to membership on the Board.

## Task Force Status

- **Improvised Explosive Devices (IED) Study** [co-chairs: Dr. Eric Evans and LTG Paul Funk (USA, Ret.)] This follow-on task force to the first IED effort will develop strategic and operational plans and examine the goals, process and substance of those plans. It will also act as an independent sounding board to the JIEDDO by providing feedback at a quarterly interval. Sponsored by: USD(AT&L) and JIEDDO. **Task force in progress.** (LTC Walters)
- **Science and Technology Issues of Early Intercept Ballistic Missile Defense** [Co-Chairs: General Lester Lyles (USAF, Ret.) and Admiral William Fallon (USN, Ret.)]. This task force will study the feasibility of ballistic missile defense in engaging regional-level, adversary ballistic missiles in the early intercept phase of the ballistic missile's trajectory. Sponsored by USD(AT&L), USSTRATCOM, and VCJCS. **TOR signed December 2009, task force in progress.** (LTC Walters)
- **Improvements to Services Contracting.** [Chair: Dr. Jacques Gansler]. This study will assess improvements in the procurement and oversight of services by the Department of Defense. This is in accordance with Section 802 of the National Defense Authorization Act for FY 2010 (H.R. 2647, 211-212). Sponsored by USD(AT&L). **TOR signed December 2009, membership forming.** (Maj Warner)
- **Role of Autonomy in Department of Defense (DoD) Systems** [Co-Chairs: Dr. Robin Murphy and Mr. James Shields]. This study will inform the Department's plans as it introduces significant numbers of unmanned platforms. It will deliver a roadmap for realizing as rapidly and efficiently as possible the battlefield potential of autonomous systems. Sponsored by USD(AT&L). **TOR signed March 2010, membership forming.** (LTC Walters)
- **Trends and Implications of Climate Change for National and International Security** [Co-Chairs: General Larry Welch (USAF, Ret.) and Dr. John Deutch] This study will provide a comprehensive picture of the current situation and trends regarding climate change. The task force will recommend an overall structure to capture effects on U.S. government programs to aid decision making to mitigate the effects on U.S. national and African partner security. Sponsored by USD(AT&L), AFRICOM. **TOR signed April 2010, membership forming.** (Maj Warner)
- **2010 Summer Study on Enhancing Adaptability of our Military Forces** [Co-chairs: Mr. Al Grasso and Dr. Bill LaPlante]. This study will examine how the military can improve and enhance the adaptability of our forces and force structure to meet the challenges of the 21st century. The Summer Study will establish defining metrics and identify fundamental attributes of an architecture to enhance adaptability. Sponsored by USD(AT&L). **TOR signed April 2010, task force in progress.** (LTC Walters)
- **Assessment of Nuclear Treaty Monitoring and Verification Technologies** [Co-Chairs: Dr. Miriam John and Dr. Donald Kerr]. This study will assess the adequacy of the nation's technical tools to support monitoring and verification, both as part of the cooperative verification regimes of the treaties and through national intelligence. Sponsored by USD(AT&L), NNSA, and the DNI. **TOR signed April 2010, membership forming.** (Maj Warner)

## Permanent Sub-Committees

- Nuclear Weapons Surety
- Advisory Group on Defense Intelligence
- Advisory Group on Electron Devices (AGED)
- Nuclear Weapons-Survivability of DoD Systems and Assets to EMP and other Nuclear Weapons Effects

## Updates from Other Boards

### Air Force Scientific Advisory Board (SAB)

**Chairman – Dr. John Betz**  
**Vice Chairman – Dr. Rami Razouk**  
**Military Director – Lt Gen Mark Shackelford**  
**Executive Director – LtCol Tony Mitchell**

SAB secretariat: 1-800-762-7407  
Website: <https://www.sab.hq.af.mil/>  
Email: [afsb.workflow@pentagon.af.mil](mailto:afsb.workflow@pentagon.af.mil)

The Air Force Scientific Advisory Board (SAB) held its Winter Board meeting on 12-14 January 2010 in Crystal City, VA. The SAB members voted to accept the findings and recommendations of the FY10 AFRL S&T Reviews of the following Technology Directorates: AFRL/AFOSR, AFRL/RB, AFRL/RH, AFRL/RI, AFRL/RX, and AFRL/RW. The SAB provided outbriefings of the S&T Reviews to AFMC/CC, SAF/AQ, AFRL/CC, and to ACC/ST.

The SAB also kicked off the four FY10 studies with briefings from General Officer sponsors. The study topics and panel Chairs / Vice Chairs are:

- **Future of Launch Vehicle Systems**
  - Chair: Prof Anne Karagozian, Vice Chair: Dr. Michael Yarymovych
- **Next Generation Electronic Warfare**
  - Chair: Mr. Bruce Johnson, Vice Chair: Ms. Heidi Shyu
- **Test Range Security**
  - Chair: Mr. Howard Schue, Vice Chair: Dr. Eliahu Niewood
- **UAS for Irregular Warfare**
  - Chair: Dr. Greg Zacharias, Vice Chair: Dr. Mark Maybury

The SAB held its Spring Board meeting at Elmendorf AFB, Alaska, 12-15 April 2010. The Board heard presentations and received tours of various aspects of the 11<sup>th</sup> AF's operational mission. During the meeting, SAB members voted to accept the findings and recommendations for a classified, quick-look study on Test Range Compatibility. The SAB then continued fact-finding and caucus time for the on-going FY10 studies.

The SAB Summer Session is scheduled for 14-25 June 2010 at the Beckman Center in Irvine, CA. Final outbriefings of the FY10 studies' findings and recommendations will be on 24-25 June. There will be an executive outbriefing of the study results in the Pentagon on 7 July.

### Army Science Board (ASB)

**Chairman – Dr. Frank Akers**  
**Vice Chairman – Dr. Lawrence Delaney**  
**Executive Secretary – Mr. Dennis Schmidt**

ASB Secretariat: (703) 604-7461  
Website:  
<https://www.alt.army.mil/portal/page/portal/oasaalt/ASB>

#### Spring Plenary Meeting

The Army Science Board held its Spring Plenary Meeting on 12-15 April at Oak Ridge National Laboratory (ORNL). Briefing topics included small reactors, water purification and variable speed generators. The ASB membership toured the ORNL High Performance Computing and Spallation Neutron Source facilities, and received several technical briefings related to 2010 studies.

#### FY 2010 Summer Studies

Terms of Reference for 2010 Summer Studies are in draft, however the study purposes are summarized below.

- **Soldier Resilience and Performance Sustainment** - This study will identify the characteristics of excellent performance in an individual soldier, identify meaningful metrics correlated with characteristics of the best-fit soldier, determine the effect of performance degraders such as fatigue, and examine methodologies to enhance as well as sustain performance. This study is chaired by Mrs. Ruby DeMesme, Dr. Susan Houde-Walter and Dr. Stephen Xenakis.

- **Strengthening Sustainability and Resiliency of an Expeditionary Force** - This study, previously titled “Adaptive Expeditionary Force Logistics,” will create an overarching architecture of a Brigade Combat Team’s requirements for external support including water, fuel, ammunition, spares, etc and how that impacts their capabilities. It will use this architecture to identify and quantify near, medium and long-term approaches to increase the efficiency and effectiveness of our expeditionary forces. Solutions will draw from all DOTMLPF domains. This study is chaired by Mr. Bob Dodd, Dr. Jeanette Jones and BG Bob Wynn (USA, Ret.).
- **Non-cooperative Biometric Metrics** - This study will examine collection devices with regards to range, illumination techniques, frequency spectrums, and data formats and develop recommendations on (1) how to define and identify non-cooperative biometric thresholds and objectives, and (2) data fusion methodologies, that will provide confident actionable identification. This study is chaired by Dr. Bob Douglas, Dr. Bruce Jette and Ms. Teresa B. Smith.

### June IPR Session

The FY2010 Studies will undergo a second IPR session on 1 June by the ASB Chair and Vice Chair.

### Publications

The ASB published the 2009 study “Installations 2025” and the 2008 study “Generating Force Census Utilization” in February and March, respectively. In June-July the following ASB Study Reports will be published: the 2009 study “Platforms for Persistent Communications, Surveillance and Reconnaissance-II”, the 2008-2009 two-phase “Innovative Organizations” study and the 2007-2009 “LandWarNet” study.

### 2010 Summer Report Writing Session

The ASB Report Writing Session will be held at the UC Irvine Beckman Center in California, 12-22 July.

## Naval Research Advisory Committee (NRAC)

**Chairman – Dr. John C. Sommerer**  
**Program Director – Mr. William Ellis, Jr.**  
**Executive Director – BGEN Thomas Murray, USMC**

NRAC Secretariat: 703-696-4875  
 Website: <http://www.nrac.navy.mil/>  
 Email: [nrac\\_office@onr.navy.mil](mailto:nrac_office@onr.navy.mil)

## Defense Business Board (DBB)

**Chairman – Mr. Michael Bayer**  
**Executive Director – Ms. Phyllis Ferguson**

Website: <http://dbb.defense.gov/>  
 Email: [defensebusinessboard2@osd.mil](mailto:defensebusinessboard2@osd.mil)

<b><i>DSB Secretariat Staff</i></b>		DSB WEBSITE: <a href="http://www.acq.osd.mil/dsb">www.acq.osd.mil/dsb</a> Fax: 703-697-1860
<b>Mr. Brian Hughes</b> , Executive Director	<a href="mailto:brian.hughes@osd.mil">brian.hughes@osd.mil</a>	703-571-0079
<b>Ms. Debra Rose</b> , Executive Officer	<a href="mailto:debra.rose@osd.mil">debra.rose@osd.mil</a>	703-571-0084
<b>Ms. Janice Jackson</b> , Executive Assistant	<a href="mailto:janice.jackson@osd.mil">janice.jackson@osd.mil</a>	703-571-0087
<b>LTC Karen Walters</b> , Army Military Assistant	<a href="mailto:karen.walters@osd.mil">karen.walters@osd.mil</a>	703-571-0082
<b>Maj Michael Warner</b> , Air Force Military Assistant	<a href="mailto:michael.warner@osd.mil">michael.warner@osd.mil</a>	703-571-0081
<b>vacant</b> , Navy Military Assistant		703-571-0083

### ***Upcoming DSB Meeting Dates***

- 2 – 13 August 2010 – Summer Study Conclusion
- 27 – 28 October 2010 – Fall Quarterly Meeting

## *Defense Science Board Members and Ex Officio*

### **CHAIRMAN**

Dr. Paul G. Kaminski, Technovation, Inc.

### **VICE CHAIRMAN**

Gen Lester Lyles, USAF (Ret.), Private consultant

### **SENIOR FELLOWS**

Dr. Ruth A. David, Analytic Services Inc.

Mr. William P. Delaney, MIT Lincoln Laboratory

Dr. Craig I. Fields, Private Consultant

Hon. John S. Foster Jr., Private Consultant

Dr. Theodore S. Gold, Private Consultant

Dr. George H. Heilmeier, Private Consultant

Hon. Robert J. Hermann, Global Technology Partners

Hon. Anita K. Jones, Department of Computer Science, University of Virginia

Hon. R. Noel Longuemare, Private Consultant

Hon. William Schneider Jr., International Planning Services Inc.

Mr. Robert M. Stein, Private Consultant

Gen Larry D. Welch, USAF (Ret.), Institute for Defense Analyses

### **MEMBERS**

Dr. E. Allen Adler, The Boeing Company

Dr. Wanda M. Austin, Aerospace Corporation

Ms. Maureen A. Baginski, SPARTA

Hon. P. Jackson Bell, Private Consultant

Hon. David S.C. Chu, Institute for Defense Analyses

Mr. G. Dean Clubb, Private Consultant

Dr. Stephen E. Cross, Georgia Institute of Technology

Hon. John M. Deutch, Massachusetts Institute of Technology

Hon. John W. Douglass, Brig Gen, USAF (Ret.), Douglass Aerospace Group

Dr. Eric D. Evans, MIT Lincoln Laboratory

ADM William J. Fallon, USN (Ret.), Private Consultant

Hon. Jacques S. Gansler, University of Maryland

Mr. James R. Gosler, Sandia National Laboratories

Mr. Al Grasso, Mitre Corporation

Gen Michael C. Hagee, USMC (Ret.), Private Consultant

Dr. William G. Howard Jr., Private Consultant

Dr. Miriam E. John, Sandia National Laboratories

Dr. Ronald L. Kerber, Private Consultant

GEN Paul J. Kern, USA (Ret.), Private Consultant

Dr. William A. LaPlante, Johns Hopkins University, Applied Physics Laboratory

Dr. Taylor W. Lawrence, Raytheon

Dr. Alexander C. Livanos, Northrop Grumman Corporation

Dr. Robert W. Lucky, Private Consultant

Mr. V. Larry Lynn, Private Consultant

Hon. Judith A. Miller, Esq., Private Consultant

Mr. Alden V. Munson, Jr., Private Consultant

Dr. Robin R. Murphy, Texas A&M

Hon. F. Whitten Peters, Williams & Connolly, LLP

Dr. Fred B. Schneider, Cornell University

Dr. George R. Schneiter, Private Consultant

Mr. James D. Shields, Charles Stark Draper Laboratory

Dr. Anna Marie Skalka, Institute for Cancer Research

Hon. John P. Stenbit, Private Consultant

Dr. C. Bruce Tarter I, Lawrence Livermore

National Laboratory, University of California

Dr. James A. Tegnella, Private Consultant

Dr. Lydia W. Thomas, Private Consultant

Mr. Lou Von Thaer, General Dynamics

Dr. Robert L. Wisnieff, IBM

Hon. Donald M. Kerr, Private Consultant

---

NON-VOTING MEMBERS

Dr. Frank Akers, Army Science Board

Mr. Michael Bayer, Defense Business Board

Dr. John Betz, Air Force Scientific Advisory Board

Mr. John Hamre, Defense Policy Board

Dr. Wayne Lednar & Dr. Gregory Poland, Defense Health Board (acting)

Dr. John Sommerer, Naval Research Advisory Committee

Mr. Vincent Vitto, Intelligence Science Board