THE LOCKHEED MARTIN - UNIVERSITY OF MARYLAND STRATEGIC PARTNERSHIP was formalized in June 2010, and provides a framework for closer cooperation between the two institutions in sharing and developing research, resources, talent and innovative solutions to national and global challenges. The Strategic Partnership promotes work in three key areas: Centers of Collaboration, joint pursuit of business opportunities, and enhanced Research and Development.

FOR MORE INFORMATION or to get involved, please contact Eric Chapman, Assistant Vice President for Research Development, 301-405-7136, echapman@umd.edu or www.research.umd.edu.

A STRONG PARTNERSHIP THRIVES
The Lockheed Martin - University of Maryland Strategic Relationship continues to grow with new and diverse collaborations involving researchers across the campus and corporation.

WORKING CLOSELY TOGETHER
Lockheed Martin and the University of Maryland continue to support each other’s research and workforce development needs, teaming together to win third party business and developing innovative solutions to national and global challenges.

AEROSPACE ENGINEERING
Aerospace engineering may come to mind when you think about a partnership between the University of Maryland (UMD) and Lockheed Martin, but this growing collaboration includes disciplines from across the University. Lockheed Martin and UMD work closely on projects in cognitive human performance, neuroscience, defense acquisition policy, quantum science and technology as well as others. Most recently physics and engineering teamed up with Lockheed Martin to launch the joint Quantum Engineering Center, led by Chris Monroe (Physics and Joint Quantum Institute), a Center of Collaboration whose mission is to design and build practical, integrated quantum processing devices.
UMD and Lockheed Martin interactions have recently included an array of topics including:

- Quantum thermodynamics (Chris Jarzynski, Chemistry and Institute for Physical Science & Technology, working with Corporate Engineering, Technology & Operations)

- Traumatic Brain Injury prediction (Luiz Pessoa, Psychology and Maryland Neuroimaging Center, working with Information Systems & Global Solutions)

- Executive education programs in international business culture and negotiation (Robert H. Smith School of Business working with International Engineering & Technology)

- A substantial review of defense acquisition processes and policy (Jacques Gansler, Public Policy)

- Joint proposals between UMD faculty and Lockheed Martin for Cybersecurity, NSF and Department of Energy programs

A new Federal Acquisition Certificate Program has been established for Lockheed Martin employees at the Center for Logistic Collaboration, led by Jacques Gansler (Public Policy). The center works with Lockheed Martin’s Corporate Logistics and Sustainment group and was the first Center of Collaboration formed between Lockheed Martin and UMD. Started in 2008, this Center has conducted a range of research projects on logistics, sustainment, supply chain and acquisition issues for the Department of Defense. Graduate Research Associates from the center have been visiting Lockheed Martin facilities to brief their research and provide on-site training.

Lockheed Martin is funding Bradley Hatfield (Professor and Chair) and Rodolphe Gentili (Assistant Professor), from the UMD Kinesiology Department, to study how expertise, stress, physical fatigue and information overload can affect the mental readiness of military personnel. Their team (including the US Naval Academy), in collaboration with Lockheed Martin Aeronautics’ Advanced Development Programs and Corporate Engineering, Technology & Operations, is developing a series of cognitive tests, using electroencephalography (EEG), eye tracking sensors and other bio-markers in operationally realistic settings such as cockpits, for fighter pilots and operators of unmanned aerial vehicles—both jobs that demand a high level of alertness and the ability to make quick decisions. The team is also planning to develop machine learning algorithms for biomarkers selection and classification, in conjunction with Engineering, Computer Science and other collaborators. Past research, sponsored by Lockheed Martin, revealed the utility of dry EEG recordings (i.e., gel-free EEG electrodes) to assess cognitive workload.

A long history together.

These latest projects stand on the shoulders of a 60-plus year association between the university and Lockheed Martin, tracing its roots back to early involvement between aviation pioneer Glenn L. Martin and Maryland’s aeronautical engineering program. Other joint research projects in recent years include: advanced materials, sensors, lasers, genomics, computer vision, language translation, social networks, healthcare efficiency and energy storage.

Lockheed Martin continues to maintain other close ties to the University, sponsoring student groups and campus events, internships, recruitment of graduates, and strongly supporting Corporate Partners Programs and campus advisory boards.

It is easy to collaborate, whether you are from UMD or Lockheed Martin. Enabling arrangements include:

- Universal Non-Disclosure Agreement: covers all University and Lockheed Martin personnel to engage in exploratory discussions on potential joint projects.

- Master Research Agreement: provides a contractual vehicle and template for statements of work and contracts, designed to streamline the process for starting projects.

- Campus Space: The Lockheed Martin Partnership Suite in the Kim Engineering Building provides office space and a conference room for Lockheed Martin visitors to use and for joint meetings.

Lockheed Martin participates in the activities of the following UMD Centers and Programs:

- Center for Logistics Collaboration
- Quantum Engineering Center
- A. James Clark School of Engineering Corporate Partners Program
- Electrical & Computer Engineering Corporate Affiliates Program
- Center for Advanced Life Cycle Engineering Electronics Products and System Consortium
- Maryland Cybersecurity Center Corporate Partners
- Computer Science Department Corporate Partners in Computing
- Institute for Systems Research Associate Partners Program