



U.S. ARMY  
**RDECOM**

ARL DoD Supercomputing Resource Center



**S&T Campaign: Computational Sciences**  
*Advanced Computing Architectures*

Lee Ann Brainard, (410) 278-6664  
Lee.A.Brainard.civ@mail.mil

**Research Objective**

- Provide a scalable computing architecture to the DoD RDT&E community
- Provide accessible mass storage of data and expert staff to assist users with the complexities of the High Performance Computing (HPC) systems
- Data Analytics or “Big Data”

**ARL Facilities and Capabilities Available to Support Collaborative Research**

- ARL Supercomputing Research Center
- Robust HPC facility capable of supporting air or water cooled systems
- Leverages ARL Research thrusts in advanced computing systems, scalable software, and HPC networking



Excalibur – Debuted at 19<sup>th</sup> Fastest Computer in the World  
101,312 processors, 32 GPUs, 411 TB memory



Hybrid – 1024 Intel cores, 16 GPUs and 48 Phi coprocessors

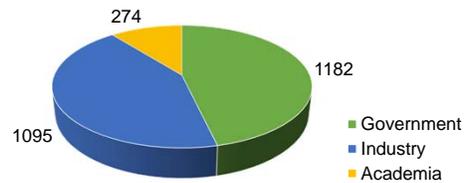
**Software**



A full list can be found here:  
[www.arl.hpc.mil/software/index.html](http://www.arl.hpc.mil/software/index.html)

**Challenges**

- Develop and deliver advanced computing and advanced networking tools and technologies to the DoD RDT&E community.
- Extend utility of HPC tools and framework into DOD RDT&E programs.



FY15 Users by Type – 2551 Total

**Complementary Expertise/ Facilities/ Capabilities Sought in Collaboration**

- Expertise in computational sciences to include Advanced HPC architectures, Heterogeneous HPC platforms, Scalable Software and HPC-caliber network technologies



Petabytes of Data storage and Pre/Post Processing systems