

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>					<b>February 2004</b>				
BUDGET ACTIVITY <b>1 - Basic research</b>			PE NUMBER AND TITLE <b>0601103A - University Research Sciences (H)</b>			PROJECT <b>D55</b>			
COST (In Thousands)			FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
D55      UNIVERSITY RESEARCH INITIATIVE			0	64093	75133	70413	66450	67935	69099
<p><b><u>A. Mission Description and Budget Item Justification:</u></b>In FY03 and prior years, the Office of the Secretary of Defense University Research Initiative (URI) PE 601103D8Z contained funds for several university research, education and infrastructure programs. Starting in FY04, a portion of these OSD funds were transferred to the Army in support of the Multidisciplinary University Research Initiative (MURI) and the Defense University Research Instrumentation Program (DURIP). The MURI program supports basic research in a wide range of scientific and engineering disciplines pertinent to maintaining the U.S. land combat technology superiority. Army MURI efforts involve teams of researchers investigating high-priority, transformational topics that intersect more than one traditional technical discipline (e.g. Intelligent Luminescence for Communication, Display, and Identification). For many complex problems, this multidisciplinary approach serves to accelerate research progress and expedite transition of results to application. The DURIP provides funds to acquire major research equipment to augment current, or devise new, research capabilities in support of Army transformational research. This PE also supports Presidential Early Career Awards for Scientists and Engineers (PECASE). The PECASE program funds single-investigator research efforts performed by outstanding academic scientists and engineers early in their independent research careers. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work in this project is performed by the Army Research Laboratory (ARL).</p>									

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<u>Accomplishments/Planned Program</u>		FY 2003	FY 2004	FY 2005
In FY04, continue supporting the 54 MURI awards made in prior years. A few key continuing MURI research topics include: National Nanoscience Initiative, Critical Infrastructure Protection, Fundamental Issues Underlying Infrared Detection; Ultrawide-band Communications; New Adaptive, Reconfigurable RF Radio/Sensor Concepts; Biological and Chemical Sensing at terahertz Frequency. Continue supporting those PECASE investigators begun in prior years. In FY05, continue an estimated 56 MURI awards made in prior years. A few key continuing MURI research topics include: Integrated Control and Communication for Networked Systems; Mathematics of Failures in Complex Systems; Fundamental Theoretical/Experimental Molecular Science for Design of Fuel Cell Systems. Continue supporting those PECASE investigators begun in prior years.		0	45401	50646
In FY04, establish 8 new MURI awards. Topics for the FY04 MURI research competition will be selected in strategic basic research areas related to transformational and high-priority Army Force Operating Capabilities such as sensor fusion, beyond-line-of-sight lethality, countermine, deployability and survivability. Potentially, new multidisciplinary topics could include Control of Biologically Inspired Mobile Networks (swarms) of Autonomous and Semi-Autonomous Vehicles; or Modeling the Effects of Training on Performance and Readiness. Two new competitive awards will be made under the PECASE program. In FY05, establish approximately 10 new MURI awards. Topics for the FY05 MURI research competition will be selected in strategic basic research areas related to transformational and high-priority Army Force Operating Capabilities such as sensor fusion, beyond-line-of-sight lethality, countermine, deployability and survivability. Two new competitive awards will be made under the PECASE program.		0	6001	9487
In FY04, competitive grants will be awarded for the acquisition of research instrumentation under the Defense University Research Instrumentation Program (DURIP). Emphasis is on instrumentation vital to the discovery of new scientific knowledge and the advancement of Army transformational technologies. Research instrumentation awards average approximately \$150K each. In FY05, competitive grants will be awarded for the acquisition of research instrumentation. Emphasis is on instrumentation vital to the discovery of new science and the advancement of Army transformational technologies.		0	10831	15000
Small Business Innovative Research/Small Business Technology Transfer Programs		0	1860	0
<b>Totals</b>		<b>0</b>	<b>64093</b>	<b>75133</b>