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**FINAL FY 2010 SCIENCE BUDGETS PASSED IN LAST MINUTE FLURRY... LATEST ASTRA BUDGET SCORECARD AVAILABLE... "INNOVATION MAPPING FOR CONGRESS" PROGRAM HELD... PCAST FOCUSES ON "INNOVATION" AGENDA AS INNOVATION INITIATIVES TAKING SHAPE IN NUMEROUS FEDERAL AGENCIES... BOOM AND BUST? PRESIDENT PREPARES FY 2011 BUDGET... ASTRA INNOVATION BENCHMARKS SURVEY LAUNCHED...**

**FINAL FY 2010 SCIENCE BUDGETS PASSED:** Congress passed the remaining elements of the FY 2010 Budget, including key science agency funding, in a series of actions beginning in early December. President Obama signed the *Consolidated Appropriations Act of 2010* on December 16, 2009 and the Defense Appropriations bill, on December 19. Key elements of the science provisions of these bills are contained in the updated ASTRA Budget Scorecard found at the end of this issue, or here: <http://www.usinnovation.org/files/ASTRAFinalBudgetScorecardFY2010.pdf> For more information, including the ability to download PDF files of specific agency budgets, see also <http://thomas.loc.gov/home/approp/app10.html>

## **RECAP OF KEY SCIENCE AGENCY FUNDING FOR FY 2010:**

**1. National Science Foundation (NSF):** Funding for the National Science Foundation increased by \$436.1 million or 6.7 percent over the FY 2009 appropriation level. A Joint Explanatory Statement provides the appropriators' recommendations regarding NSF and this is useful guidance for future budget debates as well. According to the Conference Report, the agreement "... includes \$6,926,510 for the National Science Foundation (NSF), consistent with the ongoing effort to double the agency's budget over a ten-year period." Important Conferee conclusions about NSF include a statement supporting NSF "doubling" over the next decade. The Report opines: "... conferees are concerned with continuity in the level of support for research and development at the National Science Foundation and reiterate concerns expressed by the House that the request for fiscal year 2011 should represent at least a seven percent increase for NSF over the conference agreement level for fiscal year 2010 in order to sustain the planned doubling of the Foundation's budget."

**2. Department of Energy's (DOE) Office of Science:** The Energy & Water appropriations bill, H.R. 3183, was not part of the final package (it had been passed in October and signed into law on October 28.) Among the key provisions of the *Energy & Water Appropriations Act* is robust funding for the DOE's Office of Science. According to the Committee Report issued with H.R. 3183, "... This [FY 2010] funding, in addition to the \$4.8 billion appropriated in fiscal year 2009 and \$1.6 billion in the *Recovery Act*, exceeds the goals in the *America COMPETES Act*."

- The **Advanced Research Projects Agency – Energy (ARPA –E)** received no funding. While the Administration had requested \$10 million for ARPA-E, and this had been the first formal budget request for such an effort, about \$400 million for ARPA-E was included in the Stimulus ("Recovery Act") bill that passed Congress earlier last year. The announcement by **Rep. Bart Gordon (D-TN), Chairman of the House Science & Technology Committee**, that he would not run for re-election in 2010 was unrelated to this result. But Gordon has been a strong advocate of the ARPA-E concept. It remains to be seen if the Administration will support funding for ARPA-E in its FY 2011 Budget Request, due out in early February.

- **Energy Innovation Hubs:** DOE requested \$280 million for eight Energy Innovation Hubs in various program areas. Most hubs were not funded. There was, however, language in other sections of the Conference Report providing funding for three "hubs" at \$22 million each. These hubs will focus on 1) Nuclear Energy: Modeling and Simulation Energy Efficiency; 2) Renewable Energy: Fuels from Sunlight Energy Efficiency; and 3) Renewable Energy: Energy Efficient Building Systems Design.



**3. Dept. of COMMERCE/ NIST:** The **National Institute of Standards and Technology (NIST)** an agency of the U.S. Department of Commerce, generally fared well under the FY 2010 appropriations bill. Supporters of the **Technology Innovation Program (TIP)** and the **Manufacturing Extension Partnership (MEP)** were disappointed by the modest levels of increase for these particular components, given past austerity (or near-death experiences) in their budgets.

- Overall NIST R&D spending will increase to \$603 million in FY 2010, an overall increase of about 9.6% over FY 2009. Total NIST spending will increase by about 4.6% — to \$857 million — a figure that is actually \$11 million more than the Administration requested. Curiously, the \$11 million figure is the same amount of Congressional Directed Projects (“earmarks”) imposed upon the agency.

- **Industrial Technology Services:** The ASTRA-supported **Technology Innovation Program (TIP)**, the “evolutionary successor” to the **Advanced Technology Program (ATP)** received the requested \$69.9 million for an increase of \$4.9 million or 7.5 percent. Another ASTRA-supported program, the **Manufacturing Extension Partnership** effort, received its requested \$124.7 million, for an increase of \$14.7 million or 13.4 percent.

**4. NASA:** H.R. 3288 provides NASA with \$11.066 billion for FY 2010. This is an increase of about 4.9 percent over its FY 2009 appropriation. There is extensive language in the Joint Explanatory Statement regarding NASA R&D which tracks with recent Congressional concern over NASA’s multiple missions, inadequate funding, and recommendations issued by the Augustine Commission several months ago.

**5. Department of Defense, “RDT&E” Budgets and DOD 6.1 in particular:** The Defense Appropriations bill, H.R. 3326, was passed separately and signed by President Obama on December 19. Overall **DOD Science & Technology (S&T)** spending increased about 1.8% from FY 2009, from \$14.534 billion to \$14.801 billion. So-called **DOD “6.1” Basic Research** funding increased from \$1.822 billion to \$1.882 billion, an increase of about 4.7%. **DOD “6.2”** research decreased from \$5.092 billion to \$5.061 billion, a decrease of \$32 million or about -0.6%. **DOD Advanced Technology Development**, or “6.3” funding increased from \$6.527 billion to \$6.578 billion, or about \$51 million, making an increase of about +0.8%

- The most significant percentage increases in DOD science spending occurred in the category of **Defense Health Programs**. These expenditures are not considered **Research, Development, Test and Evaluation (RDT&E)** and thus are not included under the “6.2” category for budgeting purposes. Robust S&T spending increases also occurred in the **Medical Research** component of DOD’s budget. Medical Research increased from \$1.096 billion in FY 2009 to \$1.28 billion in FY 2010, an increase of \$184 million or about 16.8%.

- Among the various services, the **Air Force** garnered the most funding for RDT&E. Air Force RDT&E programs will be funded at about \$28.122 billion in FY 2010, an increase of about 4.4% and a numeric increase of about \$1.2 billion over FY 2009. For more details about the DOD RDT&E Budget, see <http://www.gpoaccess.gov/congress/house/appropriations/09conappro.html>

**6. National Institutes of Health (NIH):** The **NIH** R&D budget, which already commands the lion’s share of federal civilian R&D funding, eked out a 1.7% increase for FY 2010 over FY 2009. NIH benefitted from a seven year “doubling” effort that ended earlier in the decade, and Congress has been trying to redress the imbalance in the research portfolio ever since. Total NIH R&D will increase from about \$29.668 billion in FY 2009 to \$30.361 billion in FY 2010, an increase of \$693 million. Increases occur at about the same rates across the board for most NIH Institutes and R&D activities with the exception of the **Office of the Director** and the **Buildings & Facilities** accounts, which will undergo decreases.

**7. Other agencies — DHS Stands Out Especially:** The overall **Department of Homeland Security (DHS)** budget increased from \$49.559 billion to \$52.230 billion, actually a bit less than the



Administration's request, but about a 5.6% increase over FY 2009. Total **DHS R&D** expenditures will increase from about \$1.096 billion in FY 2009 to \$1.166 billion in FY 2010, an increase of about 6.4%. Congress had severely cut DHS R&D budgets in recent years due to serious concerns about its overall management of operations. Many of its R&D activities were implemented by other agencies of government and it is unclear whether this pattern will continue.

**FY 2011 LOOMS ON THE HORIZON — PRESIDENT'S BUDGET MESSAGE DUE OUT IN EARLY FEBRUARY.** The FY 2011 Presidential Budget Request has been under preparation since last spring. It will be presented by President Obama in early February. Many within the scientific and engineering community fear the current fiscal environment because 1) discretionary spending is overwhelmed by entitlement spending and has been for many years; 2) political pressure is intense and the general public are demanding greater control over massive federal deficits; and 3) 2010 is an election year in which economic issues may play a central role in determining future control of Congress. The unprecedented levels of federal spending dealing with the ongoing economic crisis bode ill for much needed increases in scientific R&D budgets. That said, we shall know much more about this topic — and very soon...

**ASTRA BOARD PRIORITIES FOR 2010:** ASTRA's Board of Directors has made reauthorization of the *America COMPETES Act of 2007* a top legislative priority for 2010, as well as support for overall doubling of science and engineering R&D budgets throughout the federal government.

**ASTRA INNOVATION BENCHMARKS SURVEY LAUNCHED:** ASTRA is compiling innovation data as part of its first *Innovation Benchmarks Survey*. The Survey has gone out to approximately 43,000 "Friends of ASTRA" and results are expected to be announced within a month. Please consider taking the ASTRA Innovation Benchmarks Survey by clicking through on the following link: <https://www.surveymonkey.com/s/2YLR852>

**MAPPING INNOVATION FOR CONGRESS PROGRAM HELD: ASTRA, Indiana University, and the Science, Technology & Engineering Working Group (SETWG)** co-sponsored a December "Mapping Innovation for Congress" Program in which Congressional staff were asked to help create a new innovation mapping tool for policy analysis. Prior to the event, a survey of staff assessed current understanding and opinions about innovation mapping. For more information, see [http://www.slis.indiana.edu/news/story.php?story\\_id=2072](http://www.slis.indiana.edu/news/story.php?story_id=2072)

**PCAST MEETING HIGHLIGHTS SCIENCE & INNOVATION EFFORTS:** The January 7, 2010 meeting of the **President's Council of Advisors on Science & Technology (PCAST)** highlighted the positive roles that science and innovation played during 2009. For details and videos of various agency efforts, see <http://www.tvworldwide.com/events/pcast/100107/default.cfm?id=11927&type=flv&test=0&live=0>

**MARK YOUR CALENDARS TODAY FOR APRIL 28,29 2010 — THE SETWG 14<sup>th</sup> ANNUAL CONGRESSIONAL VISITS DAY:** **Congressional Visits Day (CVD) 2010** has been scheduled by the **Science, Engineering, Technology Working Group (SETWG)** — hosted by over 30 organizations — for Wednesday and Thursday, **April 28-29, 2010**. Two full days of orientation and advocacy events are planned. The **AAAS** is planning a new media & communications training component, and initial plans are underway to "theme" a new exhibit around the 50<sup>th</sup> Anniversary of the invention of the Laser in 1959. **Please contact your trade or professional association (s) to see if they are participating.** For more information: [www.setcvd.org/cvd2010/index.html](http://www.setcvd.org/cvd2010/index.html)

**USE US! VIDEOS, PODCASTS, SLIDE SETS, TOOLS, DATA, AND MORE TOOLS:** An estimated 43,000 "Friends of ASTRA" are now accessing our two Web Sites for policy research, news, and links to a global community of interest. ASTRA now has **Facebook** and **Twitter** feeds as well. More than 70 videos related to STEM Education, Innovation Policy, and Science Funding can be found at [www.usinnovation.org/video/vid\\_landing.asp](http://www.usinnovation.org/video/vid_landing.asp) and our **State R&D Sheets** can be found at [www.usinnovation.org/state/state\\_rd.asp](http://www.usinnovation.org/state/state_rd.asp)

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**ASTRA FY 2010 Budget Scorecard:**  
**Final FY 2010 R&D Appropriations for ASTRA-focus Science Agencies,**  
**Including American Recovery & Reinvestment Act (ARRA) funding, America COMPETES Act of**  
**2007 Agencies and Other Agencies of Priority Interest to ASTRA**  
**January 11, 2010**

Quick Clips on Science & Innovation Funding & Policy...

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Key COMPETES ACT Research Agencies	FY 08	FY 09	ARRA	FY 10							
	Final (millions)	Final (millions)	ARRA (millions)	President's Budget Request (PBR) (millions)	% Increase from FY 09 levels in PBR	House (millions)	% Change from 09	Senate (millions)	% Change from 09	Final Conf. (millions)	% Change from 09
National Science Foundation R&D	\$6,084	\$6,490	\$3,002	\$7,045	8.6%	\$6,937	6.9%	\$6,917	6.6%	\$6,927	6.7%
Dept. of Energy – Office of Science R&D	\$3,959	\$4,773	\$1,600	\$4,942	3.5%	\$4,944	3.6%	\$4,899	2.6%	\$4,904	2.7%
National Inst. of Stand. & Tech. R&D	\$549	\$550	\$580	\$637	15.8%	\$575	4.5%	\$625	13.6%	\$603	9.6%
<b>TOTAL COMPETES Act Agencies</b>	<b>\$10,592</b>	<b>\$11,813</b>	<b>\$5,182</b>	<b>\$12,624</b>	<b>7.4%</b>	<b>\$12,456</b>	<b>5.4%</b>	<b>\$12,441</b>	<b>5.3%</b>	<b>\$12,434</b>	<b>5.3%</b>

Other ASTRA Priority Research Agencies	FY 08	FY 09		FY 10							
	Final (millions)	Final (millions)	ARRA (millions)	President's Budget (millions)	% Increase from FY 09 levels	House (millions)	% Change	Senate (millions)	% Change	Conf. (millions)	% Change FY 10 versus FY 09
DOD – Defense Basic Research 6.1 Spending Only	NA	\$1,822	NA	\$1,798	- 1.3%	\$1,931	6.0%	\$1,785	-2.0%	\$1,882	3.3%
DOD S&T Total S&T (6.1-6.3+Medical)	NA	\$14,357	NA	\$12,263	- 14.6%	\$14,433	0.5%	\$13,317	-7.2%	\$14,801	3.1%
Dept. Homeland Security (DHS) Total R&D	NA	\$1,096	NA	\$1,125	2.6%	\$1,124	2.6%	\$1,162	6.0%	\$1,166	6.4%
Nat. Aeronaut. & Space Admin. Total R&D	NA	\$10,547	NA	\$11,194	6.1%	\$10,586	0.4%	\$11,197	6.2%	\$11,066	4.9%
Nat. Institutes of Health Total R&D	NA	\$29,668	NA	\$30,118	0.8%	\$30,605	2.5%	\$30,118	0.8%	\$30,361	1.7%
<b>TOTAL ASTRA Priority Agencies</b>	<b>NA</b>	<b>\$57,690</b>	<b>NA</b>	<b>\$56,498</b>	<b>- 6.3%</b>	<b>\$58,679</b>	<b>11.9%</b>	<b>\$57,579</b>	<b>- 0.2%</b>	<b>\$59,276</b>	<b>2.7%</b>

For more information, including the ability to download PDF files of specific agency budgets, see also <http://thomas.loc.gov/home/approp/app10.html>

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