

## Dryden Flight Research Center (DFRC)

### **Highlights\*:**

- **Flight Opportunities:** New Program Office to manage \$17 million in FY 2011 and \$85 million over five years to provide flight opportunities for cutting-edge research.
- **Aeronautics Research:** The FY 2011 funding augmentation will be used to increase research activities into green aviation and Next Generation Air Transportation System (NextGen) capabilities.

\* Proposals regarding Program Office assignments will be implemented following Congressional approval of the FY 2011 budget; and funding amounts include the cost of civil service labor.

Center Assets: Located on the Edwards Air Force Base, CA, DFRC employs about 550 civil servants, consisting of professional engineers, pilots, mechanics, technicians, instrument fabricators, and other technical support. Center capabilities that will be tapped in the President's new program encompass the expertise for innovative flight research techniques for all phases of flight projects – from highly developed design through development, fabrication, and operations processes. Specific new activities include the following.

Flight Opportunities Program Office: Through the combination of two existing NASA programs, the Commercial Reusable Suborbital Research (CRuSR) project and the Facilitated Access to the Space environment for Technology (FAST) project, DFRC will provide flight opportunities for science, technology development and education efforts to reduced-gravity environments, brief periods of weightlessness, and high-altitude atmospheric research. CRuSR will help foster the development of the commercial reusable suborbital transportation industry, an important step in the longer-term path to provide the Nation with much lower-cost and much more reliable access to orbital space. The FAST project also provides opportunities for emerging technologies to be tested in the microgravity environment thereby increasing their maturity and the potential for their use in NASA programs and in commercial applications. As the Program Office, DFRC will coordinate and manage these flight opportunities for payloads from across the Nation.

### Aeronautics Research Augmentation:

DFRC will support the Aviation Safety Program into verification and validation of flight critical systems that will be required in order to successfully realize the NextGen. This research will include advanced simulation and testing capabilities to enable the assurance of reliable and safe functionality in distributed air traffic management systems, which must operate normally as well as in degraded modes.

DFRC will support the Integrated Systems Research Program to address operational and safety issues related to the integration of unmanned aircraft systems (UAS) into the national airspace by supporting the generation of the concept of operations (CONOPS), and human factors such as ground control station pilot-vehicle interfaces, flight research, and simulations that support UAS flight operations.

DFRC, along with the other NASA research centers, will support the augmented research and development efforts, including grants and cooperative agreements, to support NASA's environmentally responsible aviation project. These research plans, which are currently being developed, will include design and feasibility studies, high-fidelity simulations, flight demonstrations, design competitions and prize challenges.