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**Release No:** APR-231  
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## **Aurora Flight Sciences Awarded NASA Contract for On-Orbit White Blood Cell Counting System**

Cambridge, MA, March 24, 2009 - Aurora Flight Sciences announced today that it has been awarded a NASA Small Business Innovative Research (SBIR) Phase I contract to develop an On-Orbit Immuno-based, Label-free, White Blood Cell Counting System with MicroElectroMechanical (MEMS) Technology (OILWBCS-MEMS). Aurora is teamed with the Charles Stark Draper Laboratory in this effort.

Aurora will be using a Draper-developed MEMS based technology in which an array of white blood cell-specific antibodies are immobilized on small gold-coated membranes. When blood flows across the membranes, specific cells' surface protein antigens bind to their corresponding antibodies. This binding can be measured and correlated to cell counts.

The system will provide a microgravity-compatible, miniaturized, lightweight method for counting white blood cells on-orbit, including white blood cell subgroups and lymphocyte subtypes. A white blood cell counting system is extremely important to the clinical and research needs of NASA. "Future planetary missions will require a deeper understanding of cardiovascular changes, including changes in blood cell count; advanced clinical capabilities will also be required. Currently, NASA does not have an on-orbit white blood cell counting capability. Aurora's goal is to fill this need using a simple, robust, miniaturized system," said Dr. Jessica Edmonds, Aurora's Principal Investigator for this project.

In Phase I, Aurora and Draper will demonstrate the feasibility of the white blood cell counting system.

This rugged, portable, miniaturized technology requires minimal blood sample preparation and minimal power, and will be useful for both spaceflight and terrestrial applications.

### **About Aurora Flight Sciences**

Aurora Flight Sciences designs and builds robotic aircraft and other advanced aerospace vehicles for scientific and military applications. Aurora is headquartered in Manassas, VA and operates production plants in Bridgeport, WV and Columbus, MS and a Research and Development Center in Cambridge, MA. To view recent press releases and more about Aurora please visit our web site at [www.aurora.aero](http://www.aurora.aero).

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