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Aurora Wins MAV Navigation Development Contract

CAMBRIDGE, MA, May 10, 2007 – Aurora Flight Sciences announced today that the company has been awarded a contract through the Air Force Small Business Innovation Research (SBIR) Program to develop navigation and control technology that will allow micro air vehicles (MAVs) to avoid collisions as they fly through urban and other cluttered environments. This capability will enable unmanned aerial vehicles to conduct military intelligence, surveillance, and reconnaissance (ISR) missions in environments in which enemy forces, assets, and activities are hidden or obscured.

“Due to their small size, MAVs hold great potential for providing valuable military intelligence while avoiding detection and destruction,” said Dr. Thomas Vaneck, Aurora’s Vice President of Research and Development. “The technology that Aurora will develop under this SBIR will allow MAVs to robustly navigate through very complex and cluttered environments. This capability truly expands the benefits that can be realized with these vehicles by providing timely, actionable intelligence.”

Safe navigation through urban environments requires the ability to avoid both stationary objects (such as buildings, wires, poles and trees) and moving objects (such as cars, trucks and people). Each obstacle may present a different potential danger to the MAV, and must be dealt with accordingly. Since buildings and other urban obstructions often limit or completely block communications between the MAV and the ground troops, the MAV must have the onboard capability to autonomously navigate the hazards. Such a capability would allow MAVs to look under objects that might be blocked from view from up above, look in windows or doors, or simply view things from a different, more advantageous perspective.

Aurora is partnering with Professor Sean Humbert and Professor Timothy Horiuchi, both of the University of Maryland, leveraging their expertise in bio-inspired sensing to create the technology that will allow MAVs to traverse urban areas without collision. Vision-based techniques derived from insects will enable negotiation through a near-field environment of relatively large obstacles. Bat-inspired echolocation sensors will be used for active sensing of imminent collisions. These sensing techniques will be integrated with Aurora-developed navigation and maneuvering strategies to create a highly sensitive, robust, autonomous system in a package suitable for the low size, weight and power constraints that are inherent to MAVs.

About Aurora Flight Sciences

Aurora Flight Sciences develops and provides robotic aircraft and other advanced aerospace vehicles for scientific and military applications. Aurora is headquartered in Manassas, VA and operates production plants in Clarksburg, WV and Columbus, MS and a Research and Development Center in Cambridge, MA. Please visit our web site at www.aurora.aero.

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