

# Multi-Modal Vehicle

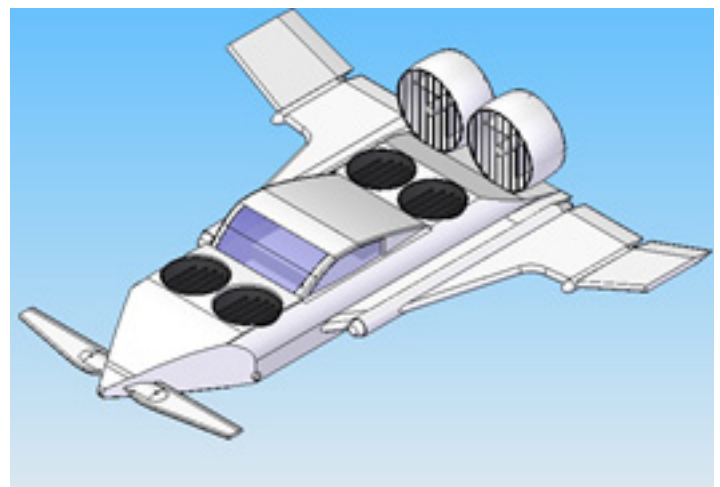
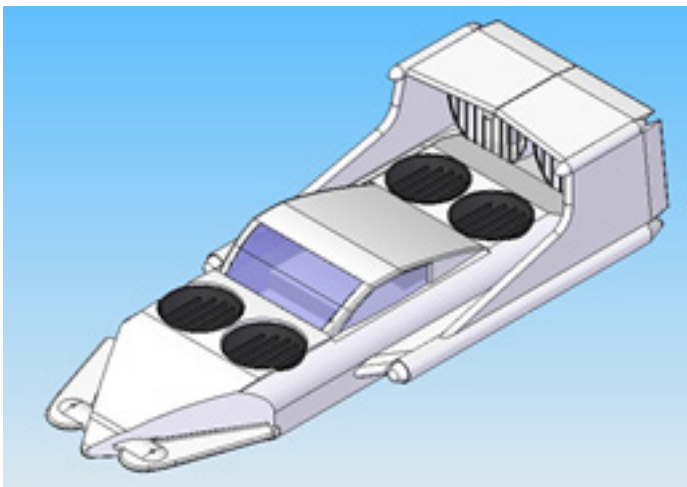
OU ID: #09020

## Overview

Vehicles that are operable in various modes have been a desire since the Wright brothers' first took flight. The ability to transition between SUV and aircraft and/or watercraft opens a wide range of possibilities for the future of civilian travel and would be of great military advantage. However, there are several technological challenges to overcome in creating such an MMV. Some efforts have been made in this area; however, known conventional MMV's lack fully-automated, true multimodal functionality.

The present invention overcomes the foregoing challenges, including size and weight constraints, stability, safety, etc.. The invention is based currently off of one particular embodiment, however it should be known that the invention is not limited to these embodiments, and includes all alternatives, modifications, and equivalents.

The MMV includes a fuselage and chassis supporting at least three wheels. Extending from the fuselage is a cannard wing system and a main wing system. The main system, comprising at least two wings with an inboard system and an outboard system with two ducted fans for vertical thrust and a dual-use thrust system to switch from vertical thrust to horizontal thrust.



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## Commercial Application

- This technology could be used for quick civilian travel across multiple surfaces
- An MMV would pose great military advantages for quick terrain change

## Benefits

- Eliminates problems associated with current MMV's including size and weight restrictions, stability and control, safety concerns (escape pod), and fuel inefficiency

## Inventor

Jianchao Zhu, Ph.D. is a professor of electrical engineering and computer science at Ohio University's Stocker Center. Dr. Zhu first conceived this technology in March of 2006 and developed a working model between September 2008 and May 2009.

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