

1. **Research Title:** Computational Fluid Dynamics (CFD) for Air-Launched Unmanned Aerial Systems (UAS)
2. **Individual Sponsor:** List the AFRL research topic sponsor's contact information

Example:

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3. **Academic Area/Field and Education Level**

Aerospace Engineering/Mechanical Engineering  
Aerodynamics/Fluid Dynamics/Fluid Mechanics  
BA/BS, MS or PhD level

4. **Objectives:** Perform Computational Fluid Dynamics (CFD) analysis to support air-launched Unmanned Aerial Systems (UAS) directly from host aircraft or from podded carriage/launch systems attached to the host aircraft. Specifically, the CFD analysis will provide guidance on safe separation, optimal launch orientations, and podded carriage/launch system designs.
5. **Description:** Air-launched UAS provide the warfighter with additional capability not available on the host aircraft or to ground personnel. Current air-launched UAS programs provide under-weather and stand-off imaging to host aircraft, but as these systems gain popularity there is increasing demand for new air-launched systems with new capabilities. As these systems evolve to address specific warfighter requirements there is a continuing need for CFD analysis. CFD, combined with wind tunnel measurements, provide the background needed to transition these new capabilities.
6. **Research Classification/Restrictions:** UNCLASSIFIED. Open to U.S. citizens only.
7. **Eligible Research Institutions:** All DAGSI Universities.

**PA Approval #:** AFRL-2020-0110