

Attachment 1 – Research Topic

1. **Research Title:** Low-Power Lightweight Anti-Ice/De-Ice Solutions for Remotely Powered Aircraft

2. **Individual Sponsor:**

Dr. Elizabeth S. Berman
Senior Research Engineer
Logistics Systems Support Branch
Materials & Manufacturing Directorate
Air Force Research Laboratory

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

Aerospace Engineering, Electrical Engineering, Mechanical Engineering,
Material/Remotely Piloted Aircraft Systems

Master's/PhD level

4. **Objectives:** Develop and demonstrate a solid understanding of the effects of weather on icing of remotely powered aircraft (RPA). A low-power lightweight anti-ice/de-ice solution for the MQ-9 aircraft, capable of relaxing current aircraft flight restrictions is desired.

5. **Description:** Due to the urgent need for the combat capability, Remotely Powered Aircraft (RPA) were fielded without the exact understanding of the effect of icing on their performance. The Air Force is seeking a better understanding of how icing conditions affect RPA.

6. **Research Classification/Restrictions:** Unclassified

7. **Eligible Research Institutions:** Indicate to what organizations this topic should be provided

DAGSI (Wright State University, AFIT, Ohio State University, University of Dayton, Miami University, Ohio University, University of Cincinnati) NOTE: Topics submitted to DAGSI must be approved for public release. Need PA Approval #: 88ABW-2015-3318

AFIT (only)

USAFA (only)

If you are submitting a topic for the USAFA, indicate if you are also interested in sponsoring a USAF Cadet in summer 2015 (Average cost for USAF Cadet for 33 days is \$5000)

Yes

No