

FY21 Student Research Topic

1. Research Title: Mechanisms of Aging and Reliability in Electronics

2. Individual Sponsor:

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3. Academic Area/Field and Education Level:

Physics, electrical engineering or materials science (MS or PhD). Ideal students will have an understanding and focus on the physics of device operation and the physical and chemical processes in operating devices that lead to degradation and failure.

4. Objectives:

The objectives of this research include:

5. Description:

Existing and emerging electronic devices exhibit complex multi-physical behavior while in operation. The Air Force requires pushing the envelope on performance, often leading to operational regimes that significantly stress (electrically, thermally, mechanically) the underlying materials and interfaces within the device.

6. Research Classification/Restrictions:

None.

7. Eligible Research Institutions:

DAGSI (Wright State University, AFIT, Ohio State University, University of Dayton, Ohio University, University of Cincinnati)