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**Exciting Senior Capstone Projects Solving US Air Force Challenges**

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WESTERN CAROLINA UNIVERSITY**

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**10/02/2014  
Final Report**

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# REPORT DOCUMENTATION PAGE

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Grant Title: Exciting Senior Capstone Projects Solving USAF Challenges

Grant #: FA9550-11-1-0301

Reporting Period: September 30, 2011 to September 29, 2014

Accomplishment: Three teams have executed responses to the AFRL challenges in 2011, 2012, and 2013. The first team was a team composed of students from Western Carolina University and they designed, built, and successfully demonstrated a battery powered motorized climbing hoist at the competition held in Dayton, OH. The second team was composed of six students from the Purdue University School of Engineering Technology and they designed a bridging system based on an arch. This system was successfully demonstrated at the 2012 competition at Eglin, Florida. The final team was composed of six students from the Purdue University capstone team who successfully designed, built and demonstrated operation of a solution to the 2013-2014 challenge, which required the heavy life device capable of up to 55,000 lbs.

During the course of the three years, teams of students succeeded in demonstrating a solution at the competition that, while not meeting all requirements, worked sufficiently to demonstrate viability of a solution.

Archival publications: None

Changes in research objectives: The original PI, Dr. Phillip Sanger, relocated to Purdue University and is executing subsequent challenges from that institution through a subcontract with Western Carolina University.

Change in AFOSR program manager: None

Extensions granted or milestones slipped: None

New discoveries: None