

**AL-07AT55A**

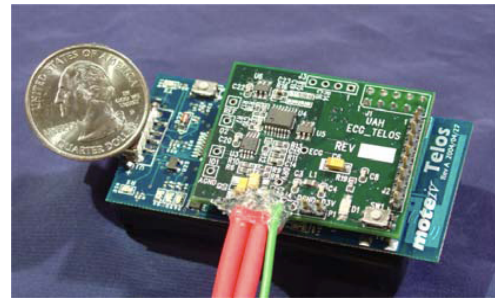
## **Device Realization for Sensor and Health Monitoring of Space Transportation Systems**

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*Example of a UAH designed heart and activity monitor with wireless interface.*

**Research:** Nanotechnology offers many potential benefits for the research and development of integrated sensor and health monitoring in space transportation systems for future manned and unmanned NASA missions. Realizing the full promise of nanotechnology is hindered by technical barriers to harnessing nanoproperties in a macroscopic world. Researchers from the University of Alabama in Huntsville and Alabama A&M University seek funding from the NASA EPSCoR program to form an interdisciplinary team to bridge the gaps from nanotechnology innovation to device realization.

**Potential Impact:** Successful completion of the proposed sensor research effort will establish a nationally competitive, collaborative sensor team in North Alabama with a family of developed and developing sensors. The technological needs of space exploration, military, and commercial applications prevalent in the North Alabama community will provide the team with the long term self-sustaining program that is consistent with the goals of the NASA EPSCoR program. To facilitate technology transfer of the developed technologies, the researchers are actively working with two companies, Halo Research and Platypus Technologies. Furthermore, the integration of sensor research into both undergraduate and graduate education will enhance existing efforts to improve STEM education in the North Alabama area and increase participation of minority students. The proposed program supports four graduate students and several undergraduate research projects. Finally, ongoing collaborations resulting from the proposed research program will facilitate technological transfer from NASA and the sensor team to the local business community.

<http://www.uah.edu/ASGC/EPSCoR.php>