ABOUT THE COMPETITION

The IARC competition has been pushing the envelope of collegiate innovation for nearly two decades, with multi-year missions that evolve as teams are able to successfully complete requirements autonomously. It is in its 5th Competition.

The fictitious scenario involves the meltdown and explosion of a nuclear reactor in a complex of four. After the explosion, one of the reactors fails to engage the safety protocol. Due to the high levels of radiation still present, humans cannot directly intervene to determine the cause of the reactor malfunction.

A small vehicle has been deployed to investigate a building within the nuclear complex, which must search for a control panel that will help investigators understand the problem. This vehicle must be able to autonomously recognize an emblem above a one meter by one meter blown out window, enter the building, and search for the control panel identified by an icon, a unique audible noise, and a solid blue LED.

PLANNING AND MANAGEMENT

This student-led project, along with both faculty and industry advisors, have laid out detailed plans that will guide the project from start to finish. Within the team, sub-groups have been formed by discipline. The project is divided into four phases that will guide our progress:

- **Phase 1 (completed)**: create preliminary design documentation, perform initial research, plan project timeline, and assess project feasibility.
- **Phase 2 (Due March 30th)**: prove foundational concepts, design a prototype platform that is capable of basic flight.
- **Phase 3 (Due June 1st)**: complete a basic design capable of satisfying all competition requirements.
- **Phase 4 (Due by Competition)**: add improvements to basic design that will improve competition performance.

ABOUT THE ROBOTICS CLUB

The Oregon State University Robotics Club was established in 2006 to supplement the Electrical Engineering education of OSU students. The club has been highly successful, and currently has over 100 members that compete locally, regionally, nationally, and internationally in order to improve their electronics skills and prepare for entrance to the workforce as capable engineers.

Recently, the OSU Robotics Club received national attention during the 2008 Mars Rover Challenge competition, held at the Mars Desert Research Station in the southern Utah desert. The team received first place during their first year of competition.

ABOUT THE AERIAL TEAM

A multidisciplinary team of about twenty OSU Robotics Club members has formed for the express purpose of competing in the 2009 International Aerial Robotics Competition, which will be held at the University of Puerto Rico at Mayaguez in July, 2009.

This team consists of Mechanical Engineering, Electrical Engineering, and Computer Science students whose combined skillsets and knowledge will provide the means for a sound and well-rounded aerial robot capable of competing in the 19th year of this internationally renowned contest.