

Welcome to Cornell MineSweeper's monthly newsletter, bringing you exclusive news about your favorite student project team. This issue introduces you to the new team leaders, the objectives for the year and what the team has been working on thus far.



Cornell MineSweeper wins 3rd Place!

On June 5-8 2009, four representatives from Cornell MineSweeper (CMS) brought Nero, the product of countless hours (2500+) of labor, to Oakland University in Rochester Michigan to compete in the 17th annual Intelligent Ground Vehicle Competition (IGVC). CMS is proud to announce that Nero placed 3rd out of 52 teams in the Design Competition. This competition consisted of a technical report and presentation. CMS is very proud of this achievement but seeks to do even better at IGVC 2010.



CMS receiving Award for 3rd place in 17th IGVC; Left to Right: Hamzah Sikander, Greg Meess, Steven Liu, IGVC Judge, Gil Lee

Change of Leadership

In May 2009 Hamzah Sikander, the previous team leader, graduated from Cornell after earning his Master's of Engineering in Systems Engineering. A significant and lasting contribution that Sikander brought to the team was his systems engineering (SE) expertise. CMS will continue to utilize a SE approach to the design process using the knowledge and techniques learned during the past years. For the 2009-2010 school year, leadership passed to the capable hands of Barrett Ames '12, Steven Liu '11 and Cameron Salzberger '11. Ames is a Computer Science major and both Liu and Salzberger are Mechanical Engineering majors. The three co-leaders worked hard over

the summer transitioning into the first few weeks of the academic year to structure the team and define the objectives for this academic year.

2009-2010 Objectives: Landmines & Nero

CMS remains committed to its humanitarian mission to develop a cost-effective and reliable mine detecting robot to facilitate the clearance of land mines. On the slate for the 2009-2010 academic year are two main projects. The first major project is the complete design, fabrication and testing of a remote-controlled robot equipped with reliable mine detection sensors. By June 2010 CMS will have a fully functional mine

detecting robot and will send it to a military landmine detection facility for testing. The landmark objective for this project is to successfully detect one landmine at the testing facility. The second main project is a redesign of Nero's chassis and software to take to IGVC 2010 with the objective of winning first place overall. Project Nero fits into CMS's overall objective of a mine detecting robot by advancing the team's experience with autonomous robots. This knowledge can later be combined with a mine detecting platform to create an autonomous mine detecting robot.



Nero, the robot from last year to be redesigned

Team Structure and Current Efforts

The Cornell MineSweeper team is broken into three divisions: Project Nero, the Remote Control (R/C) Project, and the Business team. Project Nero mainly consists of new members to provide real design experience under the guidance of senior members. However, there is an overlap between the Nero team and the R/C team even with some of the new members to provide members with holistic experience. After several weeks of regrouping, recruiting and integrating new members, CMS has buckled down to work. The R/C team is in the middle of a three-week intensive research phase to learn about terrains in which landmines are found, the compositions of landmines, and methods of landmine detection. This research will be used to define specific objectives and design requirements for the mine detecting robot. Project Nero has begun the design process and anticipates a final design decision by mid-October. The Business team is in the process of looking for potential sponsors and other humanitarian anti-landmine organizations to collaborate with.

Team Roster

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|--------------------|---------------------|----------------------|------------------|
| • Barrett Ames | • Platon Dickey | • Leo Liang | • Chirag Rao |
| • Chris Anthony | • Jason D'Souza | • Gil Lee | • Nidhi Rathi |
| • Jawwad Asghar | • Asher Dunn | • Ben Liu | • Cam Salzberger |
| • Rabia Aslam | • Scott Franklin | • Steve Liu | • Makhlook Singh |
| • Zak Bell | • Ken Fu | • Katie Lee Meusling | • Ingrid Tu |
| • Alan Calabrese | • James Guerra | • Matt Monaghan | • John Wah |
| • Matt Christensen | • Stephen Jablonski | • Nicole Monteleone | • Sam Weiss |
| • Jimmy Crowell | • Chin Guo Jie | • Pooja Raghavan | • Chris Winikor |
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