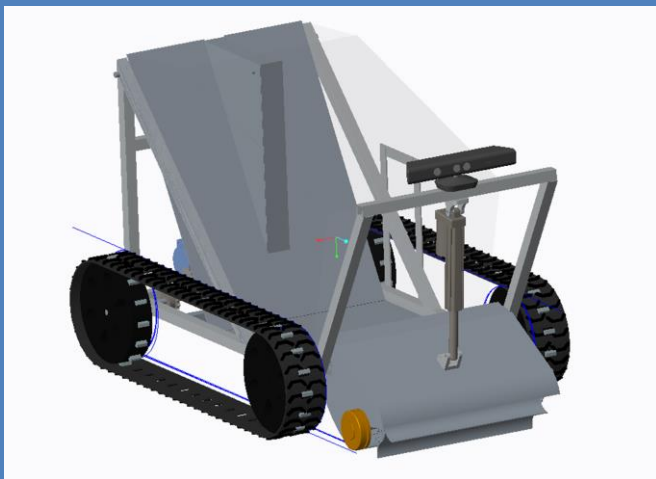


# Illinois Robotics in Space



**Illinois** Robotics In Space (IRIS) is a multidisciplinary student organization at the University of Illinois at Urbana-Champaign. It was formed to compete in the annual NASA Robotic Mining Competition. IRIS provides an opportunity for students of all disciplines to experience the development of innovative robotic systems in a peer-based learning environment, though the design, manufacturing, and operation of autonomous robots. IRIS's hands-on learning environment extends into the Champaign-Urbana community through educational outreach projects and demonstrations that promote STEM fields and inspire the next generation of students about robotics and space exploration.

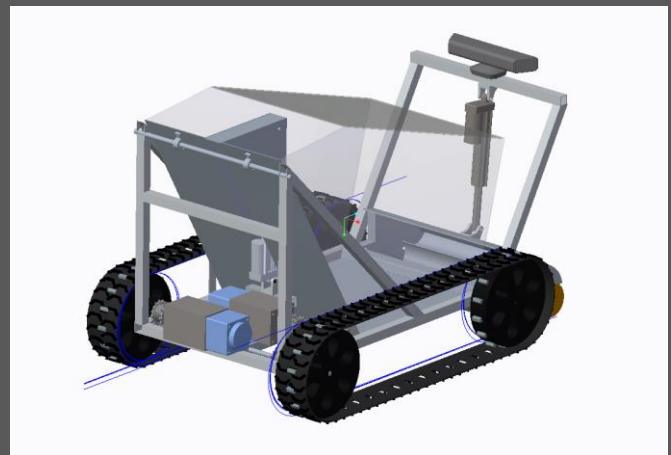


Front view of the current CAD model of IRIS-V. The team utilizes a Microsoft Kinect and a beacon to collect and analyze point cloud data to localize itself in the mining arena.



The NASA Robotic Mining Competition (RMC) is an annual event held at Kennedy Space Center. University-level

teams from across the nation design and build robots capable of mining at least 10 kg of simulated Martian regolith. IRIS designed four autonomous mining robots for RMC and has become an established competitor, with 3<sup>rd</sup> Place Systems Engineering Papers in 2012 and 2014.



Rear view of IRIS-V. Aside from major components such as the Kinect, motors, batteries, treads and wheels, the robot and its power system is entirely designed and constructed by students. This allows future engineers of a variety of disciplines to experience the full process of designing and building a complex system.