



CaSPER (Cable Suspended Performance and Entertainment Robot)



CaSPER (Cable Suspended Performance and Entertainment Robot) will be an interactive cable robot installed in the new performing arts center's black box theater known as the Cube. CaSPER is a cable robot powered by four ceiling-mounted winches, similar to the SKYCAM systems used at professional sporting events. These systems are of significant interest to researchers for their potential in large-scale construction and their ease of setup. A system such as CaSPER could be used on a construction site to guide the pouring of concrete and function as a large-scale 3D printer for example. CaSPER will be designed to carry a payload of approximately 50 lbs and will utilize blob tracking to follow a target on the ground. Its initial payload will be a ghost that will follow children wearing a special hat around the room during the Halloween party for the opening of the performing arts center. In the future, the system will be used for the development of non-linear controls techniques and will potentially interact with other systems in the room such as the CREATE interactive environment.

Participants: Dennis Hong, Assistant Professor of Mechanical Engineering, Virginia Tech; John Seminatore, Ph.D candidate

Type: Interactive Robot

Date: Fall 2013