MEng Project Opportunity:

Mechanical Engineering – ***to design winch components for helicopter rescue cable***

Advanced Design Consulting is working on an exciting new project with the Navy Aviation Rescue Swimmers to replace the steel cables, currently being used in their helicopter rescue hoists, with synthetic ropes. Although using a synthetic rope in a hoist application has not previously been possible due to the behavior of synthetic rope under high tension spooling, recent technological developments made by ADC have opened up the door to this opportunity. However, developing a hoist system using synthetic rope creates a multidisciplinary design challenge that will require innovative engineering in unchartered territory. For this reason, ADC is looking to partner with MEng students at Cornell University who are interested in helping to develop this exciting new technology with important real world applications.

ADC is looking for an MEng student in Mechanical Engineering to ***design winch system components*** that can integrate with the Navy's existing helicopter hoists and will allow for synthetic cables to be used. The system will be built around ADC's patented tension management technology that uses a series of driven pulley's to reduce the tension in the rope before it is stored on the spool. Although this technology has been developed and proven to work, applying the system to this new application creates many new and interesting design challenges. Additionally, due to the importance of safety in this application as well as the high standards for naval aircraft systems, the design will need to be extremely rugged and durable, which will require detailed structural analysis. Finally, it is extremely important to the Navy that the device is designed to be very simple and easy to use and will easily integrate with their existing helicopter rescue winch systems. If this opportunity interests you please contact Ms. Rebecca Schindler or Prof Phoenix (slp6@cornell.edu) for more information.

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