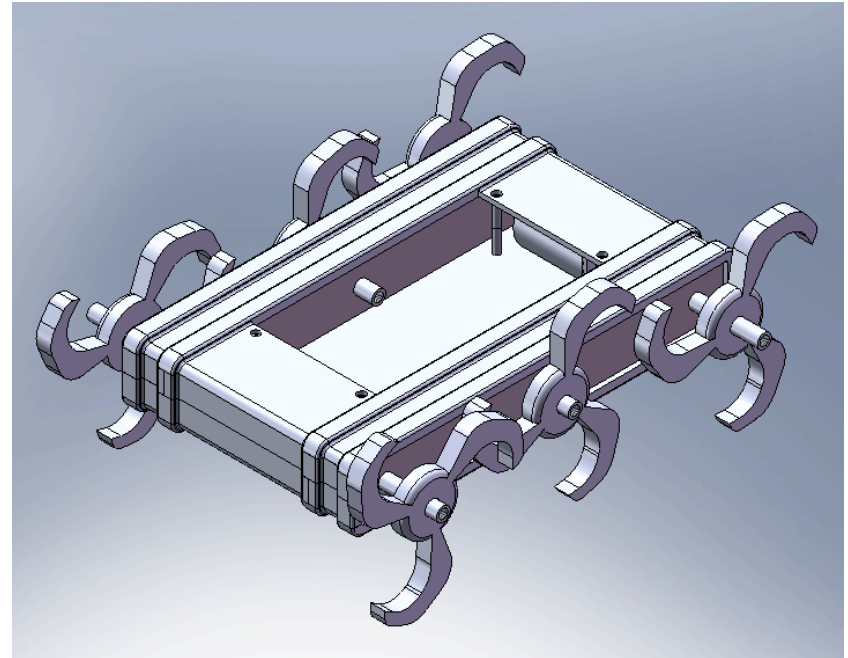


A Highly Mobile Mesoscale Platform Developed for Bio-inspired Swarm Robotics

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Swarm robotics is the study of multi-robot systems consisting of large numbers of primitive robots, particularly small mobile robots, which can cooperate to produce complex behaviors. They can perform in hostile environments and outmaneuver larger vehicles in confined spaces. Large groups of small robots can be used for covert missions or for rescue operations. In the past, a lot of task programming research has been done in swarm robotics and only several swarm projects using actual robots. However, these swarms only use two-wheeled devices designed for flat surfaces and tend to be fairly costly and complex. This platform will be capable of navigating complex terrain and suitable for deployment in outdoor environments. This design is highly mobile, robust, inexpensive and less than 10cm in size. Design of these small mobile robots will be based on previous biologically inspired models and devised using the locomotion principles of the cockroach. Development of a promising swarm paves the way for practical devices. It is also the first step to miniaturizing these robots and eventually building a micro robotic swarm.



A highly mobile, robust and inexpensive robotic platform for swarm robotic application.

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