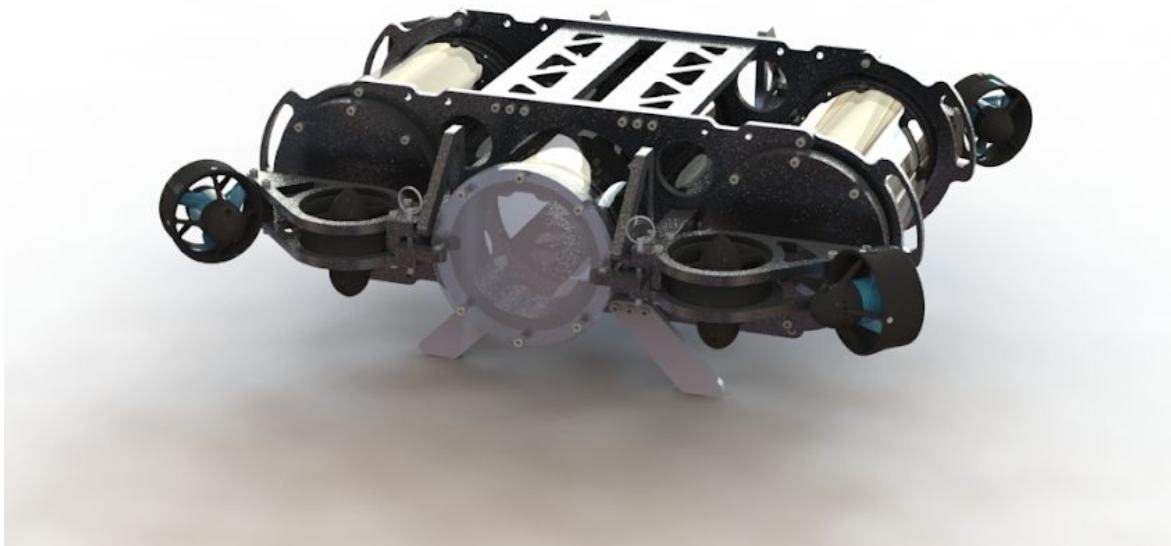




## Sponsorship Proposal 2019 - 2020



## A 3GG-C B 'GH5 H9A 9B Hs

UCR RoboSub gives passionate and motivated students the opportunity to work on a hands-on, team based, large-scale, multidisciplinary robotics project. We strive to develop our team members' interests in electrical, software, and mechanical engineering; to use the project in outreach to teach and inspire our community's youth; and prepare students for post-graduate success.



## 56CI H'H< 9'H95A

We are a team of students from UCR dedicated to exploring robotics of all applications. Drawing from across the STEM disciplines, we are a diverse team of students advancing the art of autonomous technology and using systems engineering principles in a real project. We are creating a sustainable foundation for future years, and expanding the project into the premier project of UCR's College of Engineering. Our team is twenty-five strong, composed almost entirely of undergraduate students.

## H< 9'7C A D9H-H-C B



RoboSub is a competition under the nonprofit RoboNation. Its purpose is to advance the development of autonomous underwater vehicles and provide an educational environment to aspiring technologists. RoboSub attracts over fifty teams from universities all over the world to a mid-summer event at the NIWC US Navy base in San Diego. The competition involves trials of teams' robotic submarines able to traverse and complete obstacles within a randomized course, all without external intervention.

## H< 9'DF C >97 Hs

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UCR RoboSub creates an autonomous underwater vehicle capable of completing many of the challenges present in the competition. These challenges revolve around core aspects of naval robotics such as course navigation, obstacle identification, and obstacle interaction. Tasks include interacting with suspended buoys, firing torpedoes through targets, dropping markers in bins, and responding to acoustic pingers. The project uses a number of sensors, advanced computer vision systems, control theory, mechanical design and construction, and proper integration and implementation of systems... all bundled within one robot.S



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The project brings numerous challenges: maintaining a watertight submarine able to withstand 30ft depths, custom PCB designs, power management circuits rated for 11 amps, heat dissipation, and autonomous control software. The competition requires a computer vision system able to handle the immense light variations involved with underwater images, and an artificial intelligence system accounting for numerous edge cases. Non-technically, students learn project management, product development, marketing, pitching, and branding skills. No matter the field of interest, UCR RoboSub involves and challenges all students.

This year we are creating a new submarine: for the past two years we improved upon a core submarine, investing primarily in electrical and software development, however the old frame is aging and cumbersome. Now we are able to bring our experience to a new submarine, keeping the old submarine for concurrent tests. We are going through the full structured engineering process, from subsystem ideation to production.



## 697CA 9'5'GDC BGC F

### 6I @8 B; CI F : I HI F9

As a sponsor you give engineering students the opportunity to develop lifelong skills and apply their creativity into practice. The team works around the year creating the submarine, and greatly appreciates external support to push the project further. Funding RoboSub's activities and projects allows for the creation of enriching experiences that mold the engineers of our future.

### 5 F9@5H<BG< D'K H< H< 9'H95A

As a sponsor you build a lasting connection with our motivated engineering undergraduates. Whether it is to one day gain a loyal client or employee, open doors to a resource of brilliant and diligent engineers, or make your name known throughout UCR's College of Engineering and beyond, becoming a sponsor means more than a simple donation. Your support earns you immense gratitude from the team, which they carry and share for years to come.

### 7CA D5BM9LDCGI F9

We ensure our sponsors are well-recognized for their support, through display on the team's website, promotional items, and the submarine itself. We not only compete to represent UC Riverside, but to honor the sponsors that enable us to participate in the competition. We wear our uniforms and present our project and sponsors with pride.

The competition receives news coverage from agencies including Univision and PlanetX.



# K < 9F 9'MC I F 7C BHF =6I H=C B ; C 9Gs

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We highly value each contribution, and stretch our budget beyond its limits. Donations are tax-deductible through UC Riverside's 501(c)(3) foundation.

Below are estimated costs for this year's submarine: S

