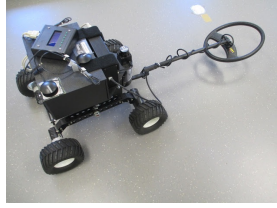


# IEEE-RAS Humanitarian Robotics and Automation Technology Challenge

"Help us to eradicate landmines and improve the quality of life for civilians"

May 31<sup>st</sup> & June 1<sup>st</sup>, 2014 ICRA, Hong Kong (Coimbra, Portugal remotely)



<http://www.isr.uc.pt/HRATC2014>

## Call for Participation

According to the UN Mine Action Service, landmines kill 15,000-20,000 people every year (mostly children) and maim countless more across 78 countries. Demining efforts cost US\$ 300-1000 per mine, and, for every 5000 mines cleared, one person is killed and two are injured. Thus, clearing post-combat regions of landmines has proven to be a difficult, risky, dangerous and expensive task with enormous social implications for civilians. Motivated by these considerations, the IEEE Robotics & Automation Society – Special Interest Group on Humanitarian Technology (RAS-SIGHT) is inviting the academic and non-academic community to participate in the first Humanitarian Robotics and Automation Technology Challenge (HRATC) at the 2014 International Conference on Robotics and Automation (ICRA'14).

This edition will focus on promoting the development of new strategies for autonomous landmine detection using a mobile (ground) robot. These strategies will be evaluated according to the following criteria: **exploration time and environmental coverage; detection and classification quality**, i.e., when a metallic object is detected, it should be classified correctly as a landmine or non-landmine; **landmine avoidance**, i.e., while navigating, the robot should not go over landmines.

## How To Participate in the Challenge

All potential participants should submit a paper (2-3 pages maximum) in the standard IEEE format including figures that describes the motivation, previous experiences and research (if any), and the main techniques that will be used during the Challenge. The organizers will then evaluate this paper and an acceptance notification containing further steps would follow. All submissions should be sent to <[hratc2014@gmail.com](mailto:hratc2014@gmail.com)>.

**All teams will use the same robot that will be available before (for remote practice runs) and during the Challenge. Furthermore, participants will have access to a simulator to develop their code before testing it remotely on the real robot.**

The Challenge will take place remotely in Coimbra, Portugal, and beamed in real time to the Hong Kong Convention and Exhibition Center during ICRA'14. Necessary logistics and travel support (level of support will vary depending on the number of teams) for the event will be provided by HRATC organizers. Further information about the Challenge is available at the Website link given above.

## About IEEE RAS-SIGHT

The IEEE RAS-SIGHT is the first and only IEEE Society to have a SIGHT! The mission of RAS-SIGHT is the application of robotics and automation technologies for promoting humanitarian causes around the globe, and to leverage existing and emerging technologies for the benefit of humanity and towards increasing the quality of life in underserved, underdeveloped areas in collaboration with existing global communities and organizations. To engage the international community in these causes, starting in 2014, RAS-SIGHT will organize an HRATC in RAS-sponsored conferences.

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## Organizers

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## Important Dates

Entry Submissions – March 1, 2014  
Acceptance Notifications – March 15, 2014  
Challenge@ICRA'14 – May 31 & June 01, 2014