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Time schedule

The contribution should focus on theories, principles and developments which have been explicitly developed for robots (terrestrial, aerial), and carried sensor systems for environmental surveillance, risky interventions, in the Humanitarian De-Mining in particular

An **abstract** of approximately 300 words (in English) should be received not later than **March 27 2010**. Electronic submissions of the abstracts (Word, PSF, PDF-files) should be e-mailed to:

amr.benkhalifa@topnet.tn and
Yvan.baudoin@rma.ac.be

- ⌚ Final selection and invitation of participants:
April, 10, 2010
- ⌚ Receipt full ready e-papers:
April, 22, 2010

Organization Committee

Workshop

Co-Chair:

Prof. Yvan Baudoin, RMA, Brussels.
Prof. Amr BENKHALIFA, AMT, Fondouk Jedid

Workshop inquiries to:

Workshop 'Risky Interventions and Humanitarian Demining HUDEM'2010'
Prof Amr Benkhalifa
amr.benkhalifa@topnet.tn

Director of Department of Mechanical Engineering, Military Academy of Tunisia, Fondouk Jedid



8th IARP Workshop

Robotics and Mechanical assistance in Humanitarian De-mining and Similar risky interventions

HUDEM'2010

10-12 May, 2010
National Engineering School of Sousse
Tunisia

Call for Abstracts



Background

Robotics solutions properly sized with suitable modularized mechanized structure and well adapted to local conditions of dangerous unstructured areas can greatly improve the safety of personnel as well as the work efficiency, productivity and flexibility. Solving this problem presents challenges in robotic mechanics and mobility, sensors and sensor fusion, autonomous or semi autonomous navigation and machine intelligence.

The workshop will review and discuss the available technologies, their limitations, their adaptability to different environmental natural or artificial calamities (humanitarian demining (OTTAWA treaty, OSLO treaty including the detection of sub-munitions) but also Earthquake, fire, chemical pollution, natural disaster, CBRN-E threat, etc) and discusses the development efforts to automate tasks related to detection / interventions processes wherever possible through the use of Robotics Systems and other technologies.

Scope and Topics

Specific topics include but are not limited to:

- ◆ Tele-operations
- ◆ Mobile Robotics Systems (Design, control, command) for unstructured environments (UGV,UAV, multi-robotics cooperation)
- ◆ Conventional and Autonomous Hybrid Vehicles
- ◆ Modular Tool-Kit Solutions
- ◆ Sensors and sensor fusion for detection as well as for robot localization
- ◆ Demonstrators – Tests Results
- ◆ Human Machine Interface

The workshop will also review and discuss the available risky intervention/environmental surveillance technologies along with their limitations and discusses the development efforts to automate tasks related to detection / decontamination / neutralization process wherever possible through robotization.

Other Specific topics thus include but are not limited to:

- Inspection of fire or crisis grounds
- CBRN-E threats
- Map building and reconstruction
- Networked crisis management tools
- Remote controlled, semi-autonomous, autonomous robot navigation
- Victim Detection
- Swarm of robots
- Crisis Management Information Systems

Local Organization Comity

A Benkhalifa
K. Benkhalifa
L. Romdhane

R. Fathallah
F. Gamaoun

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S.Tzafestas
L.Vatja
H.Van Brussel
J.C.van den Heuvel
D.van Zwynsvoorde
F.Verhaege
N.Vincent
G.S.Virk

Venue

The workshop will take place in Sousse. Demonstrations will be held at the National Engineering School of Sousse, offering up-to-date technology for conferences and meetings. Demonstrations and cultural visits will be offered to the attendees: the participants may also offer demonstrations/posters/exhibition-materiel

