

Organization

General Chair: K. Furuta (TDU)
General Co-chair: Y. Baudoin (RMA)
Program Chair: K. Kosuge (Tohoku Univ.)
Program Co-chair: T. Shibata (AIST)
Secretary: J. Ishikawa (JST)

IARP Members and Observers

IAPR Web site:

<http://www.eng.nsf.gov/roboticsorg/index.htm>

Austria: Peter Kopacek
Belgium: Yvan Baudoin
Brazil: Liu Hsu
Canada: Jean-Claude Piedboeuf
Erick Dupuis
P.R. of China: Xianzhong Dai
France: Georges Giralt
Germany: Ruediger Dillmann
Italy: Claudio Moriconi
Japan: Kazuo Tanie
R. of Korea: Chong-Won Lee
Russia: Valery G. Gradetsky
Spain: Manuel Armada
UK: Geoff Pegman
USA: Elbert L. Marsh

(Observers)

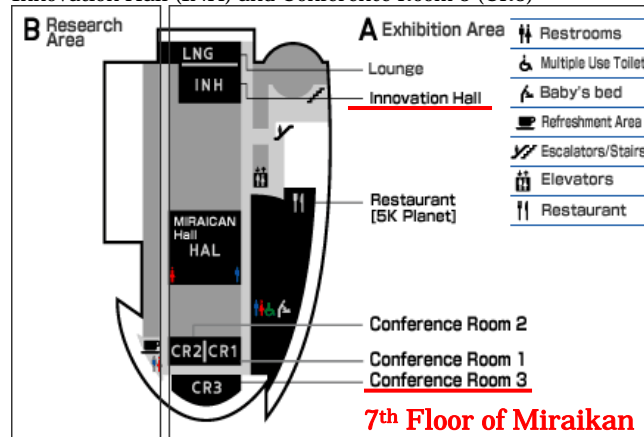
European Union: Thomas Skordas
Pekka Karp
New Zealand: Werner E. Friedrich

IARP Executive Committee

IARP President (USA): Norman Caplan
IARP Secretary (France): Georges Giralt

Place for the workshop:

Innovation Hall (INH) and Conference Room 3 (CR3)



Regular exhibition of National Museum of Emerging Science and Innovation is admission free. **Show your nameplate at the reception desk to enter it.**



Travel information:

See http://www.miraikan.jst.go.jp/e/guide/map_index.html

Japan is in the long spell of rainy weather in early summer, so you should carry something to protect you from the rain.

IARP International Workshop on

**Robotics and Mechanical Assistance in
Humanitarian Demining (HUDEM2005)**

<http://www.hudem2005.org>

Tentative

Advanced Program



Japan Science and Technology Agency

June 21 – June 23, 2005

**National Museum of
Emerging Science and Innovation
(Miraikan)**

2-41, Aomi, Koto-ku, Tokyo 135-0064 Japan

http://www.miraikan.jst.go.jp/index_e.html

HUDEM2005 Secretariat:

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Tuesday 21 June 2005

Registration: 8:30am – 9:00am

Opening session (INH): 9:00am – 10:00am

Chair: Katsuhisa FURUTA, Tokyo Denki University

Key note speeches

- ◆ Oto Jungwirth, Croatian Mine Action Centre (HCR)
- ◆ Noel Mulliner, United Nations Mine Action Service (UNMAS)

Session 1 (INH): 10:10am – 12:10pm

GPR technology and the operational needs

Chair: Yvan BAUDOIN, Royal Military Academy

- ◆ Providing demining technology end-users need (Emanuela E. Cepolina, University of Genova)
- ◆ Evaluation of an array-antenna GPR system (SAR-GPR) (Motoyuki SATO, et al., Tohoku University)
- ◆ Evaluation of a Hand-held GPR MD sensor system (ALIS) (Motoyuki SATO, et al., Tohoku University)
- ◆ Automatic extraction for mine suspect from GPR sensing data (Yasuhisa HASEGAWA, et al., Tsukuba University)
- ◆ Environment-Adaptive Antipersonnel Mine Detection System "Advanced Mine Sweeper" (Toshio FUKUDA, et al., Nagoya University)
- ◆ Evaluation of Test Results of GPR-based Anti-personnel Landmine Detection Systems Mounted on Robotic Vehicles (Jun ISHIKAWA, et al., Japan Science and Technology Agency)

Lunch (CR3): 12:10am – 1:40pm

Session 2 (INH): 1:40pm – 3:40pm

Robotic systems and vehicles for demining

Chair: Kazuhiro KOSUGE, Tohoku University

- ◆ Some Problems of Robotic Humanitarian Demining Evolution (Valery G. Gradetsky, et al., Russian Academy of Sciences)
- ◆ The Experience of Application of Remote Control Systems Produced by Moscow State Technical University for Removal Consequence of Radioactive Damages (Alexander F. Batanov, Moscow State Technical University)
- ◆ Teleoperated Buggy Vehicle and Weight Balanced Arm for Mechanization of Mine Detection and Clearance Tasks (Shigeo HIROSE, et al., Tokyo Institute of Technology)

- ◆ Two Sustainable and Compliant Robots for Humanitarian Demining (Hildebrando Cruz, et al., Introsys, S.A.)
- ◆ Development of Double-Track Mobile Robot with Demining System (Hae Kwan Jeong, et al., Korea Advanced Institute of Science and Technology)
- ◆ Research and Development of Mine Hunter Vehicle for Humanitarian Demining (Kenzo Nonami, et al., Chiba University)

Coffee break (CR3): 3:40pm – 4:10pm

Session 3 (INH): 4:10pm – 5:50pm

Mechanical demining and prodding

Chair: Takanori SHIBATA, Agency of Industrial Science and Technology

- ◆ Development of new demining equipment (Kiyoshi Amemiya, Yamanashi Hitachi Construction Machinery Co., Ltd.)
- ◆ Development of demining equipment for humanitarian aid (Atushi Nagira, Komatsu Ltd.)
- ◆ V and V Tests of BULLDOG System in Afghanistan (Ichiro Sumi, Kawasaki Heavy Industries, Ltd.)
- ◆ Mechanical Master-Slave Arm "Mine-Hand" for Manual Mine Detection Tasks (Shigeo HIROSE, et al., Tokyo Institute of Technology)
- ◆ Control and Operational of a Teleoperated Hydraulic Manipulator for Landmine Prodding and Excavation (Daniel Waterman, et al., Chiba University)

Wednesday 22 June 2005

Technical Tour: 8:00am – 6:00pm

Meet at the bus parking of the Miraikan at 8:00am.

Moving to the first site: 8:00am – 9:00am

Mine detection system demonstration:

9:00am – 11:00am

At Tokyo Institute of Technology



Moving to another site: 11:00am – 1:00pm
Sandwiches are served in the bus

Mechanical demining machine demonstration:

1:00pm – 3:00pm

At Yamanashi Hitachi Construction Machinery Co., Ltd.



It takes about 2-3 hours back to Tokyo.

Discussions (CR3): 6:00pm – 8:00pm

light meals beverages are served.

Thursday 23 June 2005

Session 4 (INH): 10:20am – 11:40am

Explosive sensing

Chair: Jun ISHIKAWA, Japan Science and Technology Agency

- ◆ Remote detection of nitrogenated substances by Nuclear Quadrupole Resonance (Minoru Tachiki, et al., National Institute for Materials Science)
- ◆ Development of Compact Compton Gamma Camera for Anti-personnel Landmine Detection with Neutron Induced Prompt Gamma-ray Imaging (Tetsuo Iguchi, et al., Nagoya University)
- ◆ Development of Landmine Detection System by measuring Radiations from Landmine (Yoshiyuki TAKAHASHI, et al., Kyoto University)
- ◆ Research and Development of Humanitarian Landmine Detection System by a Compact DisCharge-Type Fusion Neutron Source (Kiyoshi Yoshikawa, et al., Kyoto University)

Lunch (CR3): 11:40am – 1:00pm

Concluding session (INH): 1:00pm – 2:00pm

Concluding remarks (Katsuhisa FURUTA, Tokyo Denki University)