

MINE DETECTION SYMPOSIUM 2017

**Program, Sessions
and Abstracts**

22. + 23. NOVEMBER 2017

University of Basel, Switzerland

**Petersplatz 1, Kollegiengebäude 1
Lecture Room 117**



GICHD

Geneva International Centre
for Humanitarian Demining

URS ENDRESS
foundation.

Program:

22. November, 10 am to 6 pm

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|------------------------|--|---|
| 10:00 - 10:30 | Welcome Message and Introduction of GICHD and Urs Endress Foundation | M. Bold, U. Endress
GICHD, UE Stiftung |
| 10:30 - 10:40 | The FindMine Project & Overview of the Program | C. Waldschmidt
Ulm University, Institute of Microwave Engineering |
| 10:40 - 11:05 | Autonomous Mobile Robots for More Detailed, Repeatable and Safe Environment Perception | R. Bähнемann, R. Siegwart
ETH Zurich, Department of Mechanical and Process Engineering, Institute of Robotics and Intelligent Systems, Autonomous Systems Lab |
| 11:05 - 11:30 | Research within DDPS about Robotic Capabilities for Hazardous Environments | M. Höpflinger
Federal Department of Defence, Civil Protection and Sport DDPS, armasuisse Science and Technology |
| 11:30 - 11:55 | Performing Unmanned Flight Test - Exemplified on an Operational Example | T. Paul
ESG Elektroniksystem- and Logistik-GmbH |
| 11:55 - 12:20 | Field Challenges to Mine Action | M. Hands
United Nations Office to the African Union |
| - Lunch Break - | | |
| 13:20 - 13:45 | Monitoring Plant-Stress to Detect Soil Contamination by Buried Explosives | J. Bongartz
Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR |
| 13:45 - 14:10 | Hyperspectral Imaging for Landmine Detection | I. Makki
Lebanese University |

14:10 - 14:35	Fiber Optical Sensor for Explosives Detection	W. Schade Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, HHI
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– Coffee Break & Demo –

15:15 - 15:40	Downlooking GPR Activities at FHR 1999-2016	Udo Uschkerat, Fernando Rial
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15:40 - 16:05	MEDICI – Humanitarian Microwave Detection of Improvised Explosive Devices in Colombia	C. Baer, J. Sachs, R. Bustamante, F.Vega, I.Rolfes, T. Musch Ruhr-University Bochum
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16:05 - 16:30	An FDFD-Based Simulation Concept for Stochastic Investigations on Improvised Explosive Devices in Colombia	J. Jebramcik, J. Barowski, D. Pohle, C. Baer, I. Rolfes Ruhr-University Bochum
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16:30 - 16:55	IED & Mine Detection through the Eyes of a GPR Sensor	F. Rial, U. Uschkerat Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR
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16:55 - 17:20	Detection of Landmines, UXO, and IEDs using Advanced Synthetic Aperture Radar Technology	A. Heinzl, E. Schreiber, M. Peichl, S. Dill German Aerospace Center
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17:20 - 17:45	Challenges of Bringing Near Field Detection Sensors into Air – A brief Review of Methods and Results	G. Konieczek SENSYS GmbH - Magnetometers & Survey Solutions
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18:00 - open end

– Dinner & Come Together –

Program:

23. November, 8:30 am to 1:20 pm

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| 08:30 - 08:55 | FindMine I: Bistatic FMCW Based Ground Penetrating Radar for UAV Application | R. Burr, W. Mayer, T. Walter, C. Waldschmidt
Ulm University of Applied Sciences, Endress+Hauser, Ulm University |
| 08:55 - 09:20 | Findmine II: UAV with Sensor Plattform for Mine Detection | N. Docci, B. Ruch,
FHNW Brugg-Windisch, University of Applied Sciences and Arts, Institute of Automation |
| 09:20 - 09:45 | Findmine III: UAV-Based Synthetic Aperture Ground Penetrating Radar | M. Schartel, W. Mayer, C. Waldschmidt
Ulm University, Endress+Hauser |
| 09:45 - 10:10 | A Concept for Light Weight UAV-Based Radar Remote Sensing Assisted by Wireless Local Positioning | M. Schütz, M. Vossiek
Institute of Microwaves and Photonics (LHFT), University of Erlangen-Nuremberg (FAU) |
| 10:10 - 10:35 | 128 Elements Switched Wideband Antenna for Land-Mine Detection Radar | N.T. Nguyen, C. Migiaccio, G. Clement, N. Fortino, J-Y. Dauvignac, J. Willebois, C. Chekroun
Université Côte d'Azur |

– Short Break –

11:00 - 11:25	Swarm Intelligence in Mine Detection	A. Blarer armasuisse Science + Technology
11:25 - 11:50	Raman Sensors for Stand-off-Detection and Analysis of Explosives: Fundamental Aspects, State-of-the-art, and Perspectives	K. Buse, R. Sowade, C. Bolwien, J. Wöllenstein Fraunhofer Institute for Physical Measurement Techniques IPM
11:50 - 12:15	« AUBE » Paramotor Drone	J. Lerch Ihmati
12:15 - 12:40	Mine Kafon Drone	Massoud Hassani Hassani Design BV
12:40 - 13:00	IMSMA Core demo, Information Management and Data Collection for Mine Action	Kline Morgan GICHD
13:00 - 13:20	Closing: Summary and Outlook	M. Bold and U. Endress GICHD, UE Stiftung

– Lunch Break / End –