



AGENDA of the 6<sup>th</sup> Workshop on  
« **Battlefield Acoustics** »  
ISL, Saint-Louis, October 16<sup>th</sup> and 17<sup>th</sup>, 2018

**Tuesday October 16<sup>th</sup>, 2016**

- 01:30 PM Welcome address ISL-Directors  
01:40 PM Technical announcements P. Naz (ISL)

**Chairmen: T. Weßling (BAAINBw/WTD 91) and T. Pauchard (DGA/DT)**

- 01:45 PM Introduction and overview of the workshop T. Pauchard (DGA/DT),  
T. Wessling (WTD 91)

**Acoustic Detection & Localization**

- 02:00 PM Source Localization & Identification with a compact array of digital MEMS microphones, A. Ramamonjy, E. Bavu, S. Hengy (ISL & CNAM)  
02:20 PM Acoustic Detection and Localization of UAVs with Large Microphone Arrays - the Austrian Approach M. Blass, C. Amon et al. (*Joanneum Research*)  
02:40 PM SUAV detection (t.b.c.) M. Walze et al. (*Diehl-BGT Defence*)  
03:00 PM CARAVAN, a vehicle mounted mobile sound ranging array D. Cabo, A. Koers (*Microflown AVISA*)

03:20 - 04:20 PM **EXHIBITION & COFFEE BREAK**

**Common Session with NATO SET-233, Chairmen: M.V. Scanlon (US ARL) and M. Oispu (FKIE)**

- 04:20 PM Sensing of impulse sounds in open environments: an overview of ISL research in the last decade S. Cheinet, M. Cosnefroy et al. (ISL)  
04:40 PM Combining noise engineering and boundary element methods to model outdoor sound propagation over complex objects M.J. Kamrath, P. Jean et al. (ERDC, CSTB, IFFSTAR)  
05:00 PM Acoustic localization of artillery shots A. Dagallier, T. Wessling et al., (ISL & WTD91)  
05:20 PM Automatic Speech Detection and Bearing Estimation Using a Microphone Array M. Varela et al. (FKIE)

07:30 PM **SYMPOSIUM DINNER**

Wednesday October 17<sup>th</sup>, 2018

**Chairmen: T. Pauchard (DGA-TT) and T. Weßling (BAAINBw/WTD 91)**

**Common Session with NATO CCIEP: Military noise source measurements**

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| 08:30 AM | French noise benchmark for the benefit of hearing conservation program                     | <u>J. Blanck</u> , (DGA-TT),<br>P. Hamery et al. (ISL)               |
| 08:50 AM | Impulsive noise: measuring, modeling, and estimating personnel exposures                   | <u>H. Gallagher</u> , A. Wall, C. Wagner<br>(US-AFRL)                |
| 09:10 AM | A New Method for the Standardized Measurement of the Acoustic Parameters of Stun Grenades  | C. Amon, F. Graf, et al.,<br>(Joanneum Research)                     |
| 09:30 AM | Auditory and non-auditory effects of impulsive pressure waves                              | <u>J. Boutillier</u> , P. Magnan, (ISL)<br>C. Deck, et al. (UNISTRA) |
| 09:50 AM | Problems with repeated low-level blast exposure – The Canadian Armed Forces breacher study | A. Nakashima,<br>(DRDC-RDDC)   |
| 10:10 AM | Air Blast and Measurement of High Frequency Response Shock Wave                            | <u>P. Briquet</u> , B. Metz,<br>(PCB Piezotronics)                   |

10:30 - 11:00 AM

**EXHIBITION & COFFEE BREAK**

**Chairmen: U. Zölzer (UniBw) and G. Andéol (SSA/IRBA)**

**Hearing protection, 3D audio, Noise Regulations**

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|----------|--|---|
| 11:00 AM | Acute Acoustic Trauma among Soldiers during Intense Military Action  | <u>N. Fink</u> , N. Yehudai, et al.<br>(IDF Medical Corp)   |
| 11:20 AM | Factors affecting objective and subjective hearing symptoms in military populations                                | <u>D.S. Brungart</u> , B.M. Sheffield, et al. (WRNMMC)      |
| 11:40 AM | Hearing Protector Fit-Testing: from Industrial Plants to Battle Fields   | <u>J. Voix</u> et al. (ETS)                                 |
| 12:00 AM | Assessment Feedback of Intelligent Earplug, Move towards Battlefield dosimetry and new collaborative functionality | P. Hamery, et al. (ISL),<br>G. Nexer (COTRAL)               |
| 12:20 AM | Frequency-dependent hearing protector insertion loss measured with impulses  | <u>C.J. Fackler</u> , E.H. Berger, and<br>M.E. Stergar (3M) |

12:40 – 2:00 PM

**LUNCH**

**Chairmen: J. Voix (ETS) and P. Naz (ISL)**

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|---------|---|--|
| 2:00 PM | Psychoacoustic hybrid active noise control structure for application in headphones                              | <u>P. Rivera Benois</u> , V. Papantoni,<br>U. Zölzer (HSU/UniBw Hamburg) |
| 2:20 PM | Development of a new ANSI standard for measuring sound localization performance with hearing protection devices | <u>E. Thompson</u> , et al.<br>(US Air Force Research Lab.)              |
| 2:40 PM | Methods for Solving Front-Back Confusions in 3D Audio Headphones  | <u>P. Nowak</u> , V. Zimpfer, and U.<br>Zölzer, (HSU & ISL)              |

**Chairmen: R. Jacob (BWKH) and L.R. Henry (HCE/USAF)**

**Common Session with NATO HFM-285: Speech Intelligibility, Audio Communication**

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|---------|--|---|
| 3:00 PM | Effective international communication is not a technical problem: The NATO CSO-HFM 285 approach to improve communication quality among non-native English speakers/listeners | <u>R. Jacob</u> et CSO-HFM 285 members                                      |
| 3:20 PM | Relationship between speech intelligibility in noise and suprathreshold abilities  | <u>G. Andéol</u> , C. Suied et al. (SSA/IRBA)                               |
| 3:40 PM | Cartilage conduction HPD for communication during Impulse Noise Exposure   | <u>J. Rosier</u> , Y. Pène (ELNO/FR)<br><u>V. Zimpfer</u> , P. Hamery (ISL) |
| 4:00 PM | Measuring speech intelligibility of a throat microphone  | <u>O. Sundqvist</u> et al. (FMV)  |
| 4:20 PM | Speech Intelligibility: Ongoing creation and validation of a list of French rhyming words for MRT tests  | <u>T. Fux</u> , G. Blanck, et al. (ISL & SSA/IRBA)                          |
| 4:40 PM | Predicting the intelligibility of non-native speech using the Speech Transmission Index  | <u>S.J. van Wijngaarden</u> , et al. (Embedded Acoustics)                   |
| 5:00 PM | Conclusion of the workshop and of the exhibition   |   |

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**POSTER SESSION**

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| Front-back localization of sound sources based on machine learning   | L. Kröner, A. Garcia, V. Zimpfer (CNAM & ISL)        |
| Analysis of frictional sounds of soldier's uniforms  | F. Leclinche et al. (ISL, UHA/LPMT)                  |
| Method to choose the ideal size of earplug   | V. Zimpfer, G. Andéol (ISL & SSA/IRBA)               |
| Assessment of the frequency response of a solid conduction transducer from an audiometric threshold measurement of individuals | Y. Penne, J. Rosier, V. Zimpfer, et al. (ELNO & ISL) |
| Integrating situational awareness into hearing protections   | S. Hengy, V. Zimpfer et al. (ISL)                    |
| Development of a cost-effective system for dosimetry of high sound pressure levels   | F. Königstein, M. Christoph (ISL)                    |
| Modeling sound propagation in complex battlefield environments   | M.J. Kamrath, D. Keith Wilson et al., (ERDC-CRREL)   |

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