

TUESDAY, JUNE 2nd, 2026

16:00 - 16:45 Registration, **Rådhuskaia**

17:00 - 19:15 Boat trip Oslo - Oscarsborg, **Rådhuskaia**
Scenic tour along the Oslofjord
NOTE: Ferry leaves precisely at 17:00!

19:15 Hotel Check-In

20:00 - 23:00 Welcome dinner, Restaurant **Forpleiningen**

WEDNESDAY, JUNE 3rd, 2026

08:00 Setup for exhibitors booth & poster stands, **Skolekasernen**

09:00 - 09:10 Conference opening and administrative remarks, **Havnefortet**

SESSION 1 - Keynote session
Lightweight protection in a new security landscape, **Havnefortet**
Session chair - T. Børvik, NTNU

09:10 - 09:20 **F. RONDOT**, President of LWAG
Welcome and short introduction

09:20 - 09:45 **T. HORVEI**, CTO NFM Group, Norway
Need for personal protection - Lessons learned from the war in Ukraine

09:45 - 10:10 **T. THORVALDSEN**, A. WIEN, K. KARLSEN,
Norwegian Defence Research Establishment/FFI, Norway
*Use of high-performance fibre materials and optimized
production techniques for more tailor-made lightweight,
personal protective equipment*

10:10 - 10:30 Coffee break, **Havnefortet & Skolekasernen**

SESSION 2 - Protection against ballistic impact and blast for soldiers, vehicles,
aircraft and naval platforms #1, **Havnefortet**
Session chair - T. Fras, ISL, France

10:30 - 10:50 **M. WEIßE**, R. BERTHELSEN, S. GROBERT,
Bundeswehr, Germany
*Introduction of the Bundeswehr "Competence Centre for
Ballistic Body Armour"*

10:50 - 11:10 **D. STAMM**, N. ELSTER, S. DOMEZZO, S. ROTH, ISL & UTBM,
France
*Experimental analysis of the effectiveness of military helmet
against blast threats*

11:10 - 11:30 **Á MIRANDA-VICARIO**, G. ALGARABEL, F. COGHE, RMA, Belgium
*Experimental secondary fragment procedure for testing of light
textiles*

11:30 - 11:50 S. REIMOLD, S. GREDNEV, **A. JUNG**, HSU, Germany
Reducing behind-armour blunt trauma with TPMS structures

12:00 - 13:00 Lunch break, Restaurant **Forpleiningen**

SESSION 3 - Exhibitors session, **Havnefortet**
Session chair - S. Dey, NDEA/Forsvarsbygg, Norway

13:00 - 13:05 **W. CHAN** - Specialised Imaging Limited – UK

13:05 - 13:10 **M. EDWARDS-MOWFORTH** - IMPETUS Afea - Norway

13:10 - 13:15 **P. MCDONALD** - Viper Applied Science – UK

13:15 - 13:20 **T. NICHOLLS** - Photron / Serof / Cavitar Ltd - UK

13:20 - 13:25 **T.I. THUN** - NFM Group – Norway

13:25 - 13:30 **R. KIERULF** - NTNU Societal Security – Norway

13:30 - 13:35 **D. JERRAND** - Scandiflash – Sweden

13:35 - 13:40 **M. BEESTON** - Oxford Lasers – UK

13:40 - 13:45 **J. MARTINI** - AMOtronic – Germany

13:45 - 13:50 **J. TRUMPER** - Hadland Imaging – USA

SESSION 4 - POSTER SESSION & EXHIBITION, **Skolekasernen**

13:50 - 14:30 Poster session & exhibition with coffee break

SESSION 5 - Dynamic testing and modelling of materials under ballistic impact and/or blast #1, **Havnefortet**
Session chair - P.J. Hazell, UNSW, Australia

14:30 - 14:50 **L. CORALLO**, P. VERLEYSEN, Ghent University, Belgium
Quantitative experimental assessment of failure in armour materials under ballistic-relevant loading

14:50 - 15:10 **R. WADDOUPS**, S.D. CLARKE, R.J. CURRY, T. LODGE, A. HIBBERT, University of Sheffield, UK
DIC determination of localised loading on blast loaded plates from coarse soils

15:10 - 15:30 **H. VURAL**, Y. E. OZSOY, T. YALÇINKAYA, METU, Turkey
Experimental and numerical investigation of ballistic impact response in multilayer metallic systems using FE-SPH analyses with various damage criteria

15:30 - 15:50 **M. COSTAS**, O. S. HOPPERSTAD, D. MORIN, T. BØRVIK, NTNU, Norway
Protection of Li-ion battery cells in electric vehicles: Tests, models and optimisation

15:50 - 16:10 Coffee break, **Havnefortet & Skolekasernen**

SESSION 6 - Dynamic testing and modelling of materials under ballistic impact and/or blast #2, **Havnefortet**
Session chair - P. Verleysen, Ghent University, Belgium

16:10 - 16:30 **M. DI FULVIO**, L. LOMAZZI, A.MANES, Politecnico Di Milano, Italy
Finite element analysis of ballistic resistance performance degradation in damaged small arms protective inserts

16:30 - 16:50 **T. LEMIERE**, P. FORQUIN, C. FRANCAERT, University Grenoble Alpes, France
New insight into the mechanical behavior of lightweight ceramic armor

16:50 - 17:10 **A. HEINE**, R. RIETKERK, W. RIEDEL, Fraunhofer EMI, Germany
Calibration of four failure models for HHA and UHA steel

17:10 - 17:25 LWAG Scientific Committee – OPEN meeting for all participants

17:25 - 17:30 Notifications regarding guided tour and banquet dinner
End of first day

17:45 - 18:45 A guided tour of Oscarsborg fortress, outside **Skolekasernen**

19:45 - 19:50 Group photo, **Fortsplassen**

20:00 - 22:30 Banquet dinner, **Hovedfortet**

THURSDAY, JUNE 4th, 2026

NOTE: Hotel check-out **before** we start the technical program!

SESSION 7 - New materials for ballistic protection and/or blast attenuation, **Havnefortet**
Session chair - S. Clarke, University of Sheffield, UK

09:00 - 09:20 **R. THIRY**, L. ROELFS, F. BOUSSU, S. BELLAMY, TIBEKA
PROTECTIONS & ENSAIT, France
3D woven fabric: Efficient protection against high-speed explosive fragments

09:20 - 09:40 **Y. GÖÇMEN**, L.E. DÆHLI, T. MANIK, T. BØRVIK, NTNU, Norway
On the ballistic performance of additively manufactured high-strength aluminium alloys: Scalmalloy, Scalmalloy CX and Scalmalloy HX

09:40 - 10:00 K. KAPPE, **A. PFAFF**, Fraunhofer EMI, Germany
Additively manufactured cellular structures for enhanced blast and ballistic protection

10:00 - 10:20 **J. PERNAS-SÁNCHEZ**, J.M. RODRÍGUEZ-SERENO, J.A. ARTERO-GUERRERO, A. VAZ-ROMERO, D. VARAS, UC3M, Spain
Experimental analysis of 3D-printed metallic auxetic protections subjected to deformable projectiles: Ice and rubber impact

10:20 - 10:40 **C. IVÁNYI**, W. VAN DER SLUIS, D. VAN VEEN, TNO, Netherlands
Ballistic performance of additively manufactured reaction bonded silicon carbide

10:40 - 11:00 Coffee break, **Havnefortet & Skolekasernen**

SESSION 8 - Damage and failure mechanisms under ballistic impact and/or blast, **Havnefortet**
Session chair - A. Reyes, OsloMet, Norway

11:00 - 11:20 **A. MONNET**, T. FRAS, S. BAHY, A. GUITTON, A. RUSINEK, ISL & LEM3, France
Development and validation of lightweight ballistic protections based on multilayer hardfacing

11:20 - 11:40 **P.J. HAZELL**, A. SERRUBIBI, UNSW, Australia
Aspects of fibre-metal laminate penetration

11:40 - 12:00 **E. CARTON**, R. DEKKER, TNO, Netherlands
Ballistic performance of ceramic fibre reinforced ceramics

12:00 - 13:00 Lunch break, **Hovedfortet**

SESSION 9 - Protection against ballistic impact and blast for soldiers, vehicles, aircraft and naval platforms #2, **Havnefortet**
Session chair - T. Thorvaldsen, Norwegian Defence Research Establishment/FFI

13:00 - 13:20 **P. GARDÈRE**, J. BOUTILLIER, S. DOMEZZO, R. DELILLE, F. LAURO, T. HIRSCHLER, S. ROTH, ISL & UTBM, France
Flexible protection and blast injury: Experimental and numerical study using biofidelic thorax dummy

13:20 - 13:40 **H. PERRUCHOT**, O. PENNETIER, J.L. HANUS, N. PRAT,
M. ARRIGONI, A. LANGLET, LaM , France
*Post-impact cavitation behind ballistic plates: Experimental
evidence and velocity threshold*

13:40 - 14:00 **K.-L. KR GER**, S. ENGELBRECHT, V. PICHOT, T. GOEPFERT,
A. BRACQ, N. MONTMASSON, L. SINNIGER, P. BEILLARD,
A. JUNG, ISL & HSU, France & Germany
*Transparent polymer armour: Influence of ageing on the
protective performance*

14:00 - 14:20 **S. ANDERSSON**, P. APPELGREN, P. LUNDBERG, FOI, Sweden
*Effect of consolidation pressure on the protection capability of
Dyneema*

SESSION 10 - POSTER SESSION & EXHIBITION, **Skolekasernen**

14:20 - 15:00 Poster session & exhibition with coffee break
LWAG Scientific Committee meeting - Internal meeting

SESSION 11 - Dynamic testing and modelling of materials under ballistic impact
and/or blast #3, **Havnefortet**
Session chair – A. Heine, Fraunhofer EMI, Germany

15:00 - 15:20 **J. RUDSHAUG**, B.S. ELVELI, NDEA/Forsvarsbygg, Norway
*Experimental and numerical investigation of near-field blast
response in fully clamped S355 steel plates*

15:20 - 15:40 **P. FORQUIN**, P. LAROSE, C. FRANCAERT, F. BERNARD,
S. LE GALLET, University Grenoble Alpes, France
*Analysis of the mechanical properties of armour ceramics with
heterogenous microstructure using macroscopic and
microscopic scale experiments*

15:40 - 16:00 J.M. RODR GUEZ-SERENO, **J.A. ARTERO-GUERRERO**,
J. PERNAS-S NCHEZ, J. L PEZ-PUENTE, UC3M, Spain
*Experimental and numerical methodology for the analysis of
composite laminate fragments as an impact threat in aerospace
structures*

16:00 - 16:20 Final remarks by
President of LWAG, F. RONDOT, ISL
Organising Committee, T. B RVIK, NTNU & S. DEY, NDEA
End of conference

16:45 - 17:00 Ferry: Oscarsborg fortress - Sjøtorget, Dr bak, **Havnefortet**
NOTE: Ferry leaves precisely at 16:45!
The ferry will also stop at **Sunbrygga** for those who have parked
their cars there.

17:00 - 18:00 Bus transport: Sjøtorget, Dr bak - Oslo Central Station

POSTERS for SESSION #4 & #10

#P1 **T. FRAS**, T. HACHAJ, ISL & AGH, France & Poland

Application of machine-learning approaches with physics-informed over-sampling to determine ballistic limit curves

#P2 **B. BETTER, M. ARRIGONI**, A. EL MALKI ALAOUI, CH. ESPINOSA,
S. GUETTA, ISAE & ENSTA, France

Production of large homogeneous delamination in aeronautical CFRP laminates from smaller laser shocks

#P3 **L. TETLOW**, R. WADDOUPS, H. ALABDOULI, E. OSBORNE, R. CURRY,
University of Sheffield, UK

Digital image correlation on blast loaded plates: Developments and applications at the University of Sheffield

#P4 **N. NSIAMPA**, F. COGHE, RMA, Belgium

Numerical investigation of the performance of ballistic helmets against 9mm FMJ

#P5 **M. FERNANDEZ-MELGOSA**, A. AZEVEDO, F. COGHE, RMA, Belgium

Evaluating steel equivalence of soft ballistic protection materials through finite numerical models

#P6 **A. REYES**, K. BREKKEN, O. VESTRUM, T. BERSTAD, S. DEY, T. BØRVIK,
OsloMet, Norway

Impact loads on foam-based protective structures

#P7 **J. BOUTILLIER**, S. DEMEZZO, P. GARDÈRE, S. HENGY, ISL, France

Application of the SHIELD-FEM thorax model for assessing thoracic protective equipment in blast scenarios

#P8 **S. CLARKE**, A. BARR, A. TYAS, R. WADDOUPS, University of Sheffield, UK
Armox 440T plates subject to buried blast: A benchmark for appliqué systems

#P9 **A. AZEVEDO**, Á. MIRANDA-VICARIO, F. COGHE,
RMA, Belgium

Influence of under-vest fabric type on back-face deflection

#P10 **M. HINAUS**, D. MORIN, T. BERSTAD, S. THOMESSEN, T. BØRVIK,
NTNU, Norway

Finite element modelling and optimization of UHMWPE composites in LS-DYNA and LS-OPT

#P11 **D. SUBRAMANIAM**, S. THOMESSEN, T. BØRVIK, NFM Group, Norway
Experimental and numerical investigation of ballistic impact on composite materials

#P12 **S. ANNUNZIATA**, G. MARCHESI, MURAGLIA, **L. LOMAZZI**, V. AUNE,
A. MANES, Politecnico di Milano, Italy

Blast mitigation in sandwich plates using 3D-printed lattice metamaterial cores

#P13 **P. MALEKA**, P. MANGORO, N. SINGH, C. DU PREEZ,
Flamengro Armscor, South Africa

Design of a Split-Hopkinson Pressure Bar system