

TUESDAY, JUNE 2nd, 2026

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

17:00 - 19:15 Welcome reception. Boattrip Oslo – Oscarsborg, **Rådhuskaia**
Scenic tour along the Oslofjord

19:15 Hotel Check-In, **Havnefortet**

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

WEDNESDAY, JUNE 3rd, 2026

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

08:50 - 09:00 Conference opening and administrative remarks, **Havnefortet**

SESSION 1 - KEYNOTE SESSION
Lightweight protection in a new security landscape, **Havnefortet**

09:00 - 09:10 **C. MATHIESEN**, Acting director, NDEA, Norway
Welcome and short introduction of NDEA

09:10 - 09:35 **E. MICHELSEN**, Major General, Chief of Operations
and Emergency Preparedness, NDEA, Norway
*The geopolitical situation and the need for preparedness and
protection in Europe*

09:35 - 10:00 **T. HORVEI**, CTO NFM Group, Norway
*Need for personal protection – Lessons learned from the war
in Ukraine*

10:00 - 10:20 **T. THORVALDSEN**, A. WIEN, K. KARLSEN, Norwegian
Defence Research Institute, Norway
*Use of high-performance fibre materials and optimized
production techniques for more tailor-made lightweight,
personal protective equipment*

10:20 - 10:40 Coffee break, **Skolekasernen**

SESSION 2 - Protection against ballistic impact and blast for soldiers, vehicles,
aircraft and naval platforms #1, **Havnefortet**

10:40 - 11:00 **M. WEIßE**, R. BERTHELSEN, S. GROBERT,
Bundeswehr, Germany
*Introduction of the Bundeswehr “Competence Centre for
Ballistic Body Armour”*

11:00 - 11:20 **D. STAMM**, N. ELSTER, S. ROTH, ISL & UTBM, France
*Experimental analysis of the effectiveness of military helmet
against blast threats*

11:20 - 11:40 **Á MIRANDA-VICARIO**, G. ALGARABEL, F. COGHE, RMA, Belgium
*Experimental secondary fragment procedure for testing of light
textiles*

11:40 - 12:00 S. REIMOLD, S. GREDNEV, **A. JUNG**, HSU, Germany
Reducing behind-armour blunt trauma with TPMS structures

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

SESSION 3 - Exhibitors session, **Havnefortet**

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 **P.-O. ÅLRÅK** – Serof / Photron / Cavitar Ltd - Norway

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

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

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

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

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

13:45 - 14:25 Poster session & exhibition with coffee break

SESSION 5 - Dynamic testing and modelling of materials under ballistic impact and/or blast #1, **Havnefortet**

14:25 - 14:45 **L. CORALLO**, P. VERLEYSEN, Ghent University, Belgium
Quantitative experimental assessment of failure in armour materials under ballistic-relevant loading

14:45 - 15:05 **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

15:05 - 15:25 **H. VURAL**, Y. E. OZSOY, T. YALÇINKAYA, METU, Turkey
Numerical investigation of ballistic impact response in multi-layer aluminum–steel systems using FE–SPH analyses with several damage models

15:25 - 15:45 **M. COSTAS**, O. S. HOPPERSTAD, D. MORIN, T. BØRVIK, NTNU, Norway
Protection of Li-ion battery cells in electric vehicles: tests, models and optimisation

15:45 - 16:05 Coffee break, **Skolekasernen**

SESSION 6 - Dynamic testing and modelling of materials under ballistic impact and/or blast #2, **Havnefortet**

16:05 - 16:25 **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

16:25 - 16:45 **T. LEMIERE**, P. FORQUIN, C. FRANCCART, University Grenoble Alpes, France
New insight into the mechanical behavior of lightweight ceramic armor

16:45 - 17:05 **A. HEINE**, R. RIETKERK, W. RIEDEL, Fraunhofer EMI, Germany
Calibration of four failure models for HHA and UHA steel

17:05 - 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

18:15 - 19:00 Guided tour – Oscarsborg fortress, **Forpleiningen**

20:00 – 23:00 Banquet dinner, **Fortsplassen**

THURSDAY, JUNE 4th, 2026

08:50 - 09:00 Administrative remarks, **Havnefortet**

SESSION 7 - New materials for ballistic protection and/or blast attenuation, **Havnefortet**

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. GÖÇEM**, 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**, D. VAN VEEN, TNO, Netherlands
*Ballistic performance of additively manufactured reaction
bonded silicon carbide*

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

NOTE: Final time for hotel check-out

SESSION 8 - Damage and failure mechanisms under ballistic impact and/or
blast, **Havnefortet**

11:00 - 11:20 **A. PROUST**, A. GIORGI, F.X. HOCHE, D. QUIDORT,
Industeel, France
*Influence of hardness and residual austenite on Adiabatic Shear
Band sensitivity and ballistic resistance of hard armour steel
against 5.56 × 45 mm M193*

11:20 - 11:40 **A. MONNET**, T. FRAS, S. BAHI, A. GUITTON, A. RUSINEK,
ISL & LEM3, France
*Development and validation of lightweight ballistic protections
based on multilayer hardfacing*

11:40 - 12:00 **P.J. HAZELL**, A. SERRUBIBI, UNSW, Australia
Aspects of fibre-metal laminate penetration

12:00 - 12:20 **E. CARTON**, R. DEKKER, TNO, Netherlands
Ballistic performance of ceramic fibre reinforced ceramics

12:20 - 13:30 Lunch break, **Forpleiningen**

SESSION 9 - Protection against ballistic impact and blast for soldiers, vehicles,
aircraft and naval platforms #2, **Havnefortet**

13:30 - 13:50 **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*

13:50 - 14:10 **H. PERRUHOT**, O. PENNETIER, J.L. HANUS, N. PRAT,
M. ARRIGONI, A. LANGLET, LaMé, France
*Post-impact cavitation behind ballistic plates: experimental
evidence and velocity threshold*

14:10 - 14:30 **K.-L. KRÜGER**, 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*

14:30 - 14:50 **S. ANDERSSON**, P. APPELGREN, P. LUNDBERG, FOI, Sweden
*Effect of consolidation pressure on the protection capability of
Dyneema*

SESSION 10 - POSTER SESSION & EXHIBITION, Skolekasernen

14:50 - 15:30 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

15:30 - 15:50 **J. RUDSHAUG**, B.S. ELVELI, NDEA, Norway
*Experimental and numerical investigation of near-field blast
response in fully clamped S355 steel plates*

15:50 - 16:10 **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*

16:10 - 16:30 J.M. RODRÍGUEZ-SERENO, **J.A. ARTERO-GUERRERO**,
J. PERNAS-SÁNCHEZ, J. LÓPEZ-PUENTE, UC3M, Spain
*Experimental and numerical methodology for the analysis of
composite laminate fragments as an impact threat in aerospace
structures*

16:30 - 16:45 Final remarks by
President of LWAG, F. RONDOT, ISL
Organising Committee, T. BØRVIK, NTNU & S. DEY, NDEA
End of conference

17:00 - 17:15 Ferry: Oscarsborg fortress – Sundbrygga, Drøbak, **Havnefortet**

17:15 - 18:15 Bus transport: Sundbrygga, Drøbak – 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 **M. KRISTOFFERSEN**, B. HELLEN, T. BØRVIK,
Multiconsult & NTNU, Norway

Spiral strand cables subjected to fragment impact

#P4 **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

#P5 **N. NSIAMPA**, F. COGHE, RMA, Belgium

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

#P6 **M. FERNANDEZ-MELGOSA**, A. AZEVEDO, F. COGHE, RMA, Belgium

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

#P7 **A. REYES**, T. BERSTAD, S. DEY, T. BØRVIK, OsloMet, Norway

Impact loads on foam-based protective structures

#P8 **J. BOUTILLIER**, S. DE MEZZO, P. GARDERE, S. HENGY, ISL, France

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

#P9 **S. CLARKE** University of Sheffield, UK

Armox 440T plates subject to buried blast: A benchmark for appliqué systems

#P10 **A. AZEVEDO**, Á. MIRANDA-VICARIO, F. COGHE,
RMA, Belgium

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

#P11 **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

#P12 **D. SUBRAMANIAM**, S. THOMESSEN, T. BØRVIK, NFM Group, Norway

Experimental and numerical investigation of ballistic impact on composite materials

#P13 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

#P14 **N. KAKUR**, A.R. AZIZ, H. AL ABDOLLI, R. SAVIOLI, R. ALAMERI,
A. AL MENHALI, H. RAMOS, N. NIKOS, R. SANTIAGO,
TTI, United Arab Emirates

High velocity impact response of UHMWPE with conventional cross-ply and different helicoid lay-up panel configurations using DIC