



TÉCNICO



CHALMERS
UNIVERSITY OF TECHNOLOGY

**9th International Conference on
Marine Structures**

MARSTRUCT 2023

PROGRAMME



3 - 5 April 2023

Chalmers University of Technology

GOTHENBURG, SWEDEN

ORGANISATION

Conference Chairman

J.W. Ringsberg, Chalmers University of Technology, Sweden

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- F. von Bock and Polach, Hamburg University of Technology, Germany

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H.-D. Yao, Chalmers University of Technology, Sweden

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SCHEDULE AT A GLANCE

Monday, 3 April 2023		
Registration (Main Entrance Foyer – from 8h00 onwards)		
Chalmers University of Technology, Campus Johanneberg – Conference Center, Union Building		
Opening Session – Palmstedt Hall (09h00 – 09h15) J.W. Ringsberg and C. Guedes Soares		
Plenary Lectures – Palmstedt Hall (09h15 – 10h45) Chairmen: J.W. Ringsberg and C. Guedes Soares		
<i>Coffee-break (10h45 – 11h15)</i>		
Palmstedt Hall		Valdemar
Session 1.1 (11h15 – 12h45) Structural Analysis 1		Session 3.1 (11h15 – 12h45) Wave Energy
<i>Lunch (12h45 – 14h15)</i>		
Palmstedt Hall	Scania Hall	Valdemar
Session 1.2 (14h15 – 15h45) Structural Analysis 2	Session 2.1 (14h15 – 15h45) Slamming	Session 3.2 (14h15 – 15h45) Wind Turbine
<i>Coffee-break (15h45 – 16h15)</i>		
Session 1.3 (16h15 – 17h45) Structural Components	Session 2.2 (16h15 – 17h45) Impact	Session 3.3 (16h15 – 17h45) Wind Turbine – Fatigue
18h00 – Welcome Reception (Host: City of Gothenburg)		
Tuesday, 4 April 2023		
Registration (Main Entrance Foyer – from 8h00 onwards)		
Palmstedt Hall	Scania Hall	Valdemar
Session 1.4 (09h00 – 10h30) Fatigue 1	Session 2.3 (09h00 – 10h30) Wave Loads 1	Session 3.4 (09h00 – 10h30) Ultimate Strength
<i>Coffee-break (10h30 – 11h00)</i>		
Session 1.5 (11h00 – 12h30) Fatigue 2	Session 2.4 (11h00 – 12h30) Wave Loads 2	Session 3.5 (11h00 – 12h30) Ultimate Strength – Cyclic Load
<i>Lunch (12h30 – 14h00)</i>		
Session 1.6 (14h00 – 15h30) Corrosion	Session 2.5 (14h00 – 15h30) Hull Girder Loads	Session 3.6 (14h00 – 15h30) Ultimate Strength – Hull Girder
<i>Coffee-break (15h30 – 16h00)</i>		
Session 1.7 (16h00 – 17h30) Reliability	Session 2.6 (16h00 – 17h30) Dynamics and Vibration	Session 3.7 (16h00 – 17h30) Offshore Structures
19h00 – Conference Dinner (Universeum)		
Wednesday, 5 April 2023		
Registration (Main Entrance Foyer – from 8h00 onwards)		
Palmstedt Hall	Scania Hall	Valdemar
Session 1.8 (09h00 – 10h30) Ship Design	Session 2.7 (09h00 – 10h30) Blast and Explosion	Session 3.8 (09h00 – 10h30) Ice
<i>Coffee-break (10h30 – 11h00)</i>		
Session 1.9 (11h00 – 12h30) Ship Design and Optimization	Session 2.8 (11h00 – 12h30) Composites	
<i>Lunch (12h30 – 14h00)</i>		
End of the MARTSRUCT 2023 Conference		

SESSIONS IN ALPHABETICAL ORDER

Blast and Explosion

Wednesday, 5/4/2023, Session 2.7
09h00-10h30, Room: Scania Hall

Composites

Wednesday, 5/4/2023, Session 2.8
11h00-12h30, Room: Scania Hall

Corrosion

Tuesday, 4/4/2023, Session 1.6
14h00-15h30, Room: Palmstedt Hall

Dynamics and Vibration

Tuesday, 4/4/2023, Session 2.6
16h00-17h30, Room: Scania Hall

Fatigue 1

Tuesday, 4/4/2023, Session 1.4
09h00-10h30, Room: Palmstedt Hall

Fatigue 2

Tuesday, 4/4/2023, Session 1.5
11h00-12h30, Room: Palmstedt Hall

Hull Girder Loads

Tuesday, 4/4/2023, Session 2.5
14h00-15h30, Room: Scania Hall

Ice

Wednesday, 5/4/2023, Session 3.8
09h00-10h30, Room: Valdemar

Impact

Monday, 3/4/2023, Session 2.2
16h15-17h45, Room: Scania Hall

Offshore Structures

Tuesday, 4/4/2023, Session 3.7
16h00-17h30, Room: Valdemar

Reliability

Tuesday, 4/4/2023, Session 1.7
16h00-17h30, Room: Palmstedt Hall

Ship Design

Wednesday, 5/4/2023, Session 1.8
09h00-10h30, Room: Palmstedt Hall

Ship Design and Optimization

Wednesday, 5/4/2023, Session 1.9
11h00-12h30, Room: Palmstedt Hall

Slamming

Monday, 3/4/2023, Session 2.1
14h15-15h45, Room: Scania Hall

Structural Analysis 1

Monday, 3/4/2023, Session 1.1
11h15-12h45, Room: Palmstedt Hall

Structural Analysis 2

Monday, 3/4/2023, Session 1.2
14h15-15h45, Room: Palmstedt Hall

Structural Components

Monday, 3/4/2023, Session 1.3
16h15-17h45, Room: Palmstedt Hall

Ultimate Strength

Tuesday, 4/4/2023, Session 3.4
09h00-10h30, Room: Valdemar

Ultimate Strength - Cyclic Load

Tuesday, 4/4/2023, Session 3.5
11h00-12h30, Room: Valdemar

Ultimate Strength - Hull Girder

Tuesday, 4/4/2023, Session 3.6
14h00-15h30, Room: Valdemar

Wave Energy

Monday, 3/4/2023, Session 3.1
11h15-12h45, Room: Valdemar

Wave Loads 1

Tuesday, 4/4/2023, Session 2.3
09h00-10h30, Room: Scania Hall

Wave Loads 2

Tuesday, 4/4/2023, Session 2.4
11h00-12h30, Room: Scania Hall

Wind Turbine

Monday, 3/4/2023, Session 3.2
14h15-15h45, Room: Valdemar

Wind Turbine - Fatigue

Monday, 3/4/2023, Session 3.3
16h15-17h45, Room: Valdemar

DETAILED PROGRAMME

Monday, 3 April 2023

09h00 to 09h15

Opening Session

Room: Palmstedt Hall

Chairs: J.W. Ringsberg and C. Guedes Soares

Opening addresses

Welcome - City of Gothenburg

Deputy Lord Mayor Håkan Eriksson

09h15 to 10h45

Plenary Lectures

Room: Palmstedt Hall

Chairs: J.W. Ringsberg and C. Guedes Soares

Marine structural dynamics and its engineering practice

Junbo Jia, Aker Solutions, Norway

Stena AB – Thoughts on decarbonisation

Ron Gerlach, Stena Teknik, Sweden

Collaboration for sustainable shipping

Åsa Burman, Lighthouse, Sweden

11h15 to 12h45

Session 1.1

Structural Analysis 1

Room: Palmstedt Hall

Chairs: Z. Hu and A. Zamarin

Hydroelastic response of a moored floating flexible structure based on Timoshenko-Mindlin beam theory

P. Amouzadrad, S.C. Mohapatra & C. Guedes Soares

Hull deflection estimation model for marine shaft alignment applications

A. Dardamanis, G.N. Rossopoulos & C.I. Papadopoulos

A study on the development of a FPSO standard model (KRISO-FPSO) I: Focusing on structural safety evaluation

K. Sim, M.S. Ki & K. Lee

Numerical analysis of the Ro-Ro vehicle ramp structure under moving load

Y. Yang, L. Zhu, Q. Liang & Y. Chen

11h15 to 12h45

Session 3.1

Wave Energy

Room: Valdemar

Chairs: C. Eskilsson and H.-D. Yao

Experimental study on inflatable circular diaphragms used in the oscillating water column wave energy converter

F. Abad, S. Loffian, S. Dai, G. Zhao, G. Alarcon, L. Yang, Y. Huang, Q. Xiao & F. Brennan

Power capture performance analysis of a 2DoF nonlinear wave energy converter in regular waves

Y. Gao, K. Liu, Z. Gao, J. Wang & W. Jiang

Fatigue of mooring lines in wave energy parks

X. Shao, J.W. Ringsberg, H.-D. Yao, Z. Li & E. Johnson

Two-body, time domain model for a heaving point absorber

C. Stavropoulou, J. Engström & M. Göteman

14h15 to 15h45

Session 1.2

Structural Analysis 2

Room: Palmstedt Hall

Chairs: S.-R. Cho and Z. Li

Finite element analysis for ship production solutions

A. Zamarin, D. Bolf, M. Hadjina, N. Vukas, D. Klanjac & T. Matulja

A mathematical model for variable cross-section hull girder with time-varying mass characteristics

Y. Zhang & Z. Hu

A method for fast calculation of vertical bending moment and stress distribution of hull structure in HMS system

X. Zhou, Y. Liu, M. Hernandez Ramos & H. Ren

Structure analysis of lightweight sail structures for wind-assisted ship propulsion

H. Zhu, S. Bikkireddy, J.W. Ringsberg, H.-D. Yao & B. Ramne

14h15 to 15h45

Session 2.1

Slamming

Room: Scania Hall

Chairs: H.-D. Yao and S. Bjørgo Fimreite

Abnormal wave slamming impact of stiffened cylinders

S. Bjørgo Fimreite, Z.L. Yu & J. Amdahl

Comparison between deforming meshes and overset meshes for water entry of a wedge

M.F. Silveira, S. Wang & C. Guedes Soares

Experimental investigation on oblique entry of trimaran cross deck structure

S.-Q. Tang, S.-L. Sun, H.-L. Ren & X.-Q. Zhou

Fluid-structure interaction analysis for bow-shaped structure subjected to slamming pressure

K. Toh, D. Yanagihara & K. Nagayama

14h15 to 15h45

Session 3.2

Wind Turbine

Room: Valdemar

Chairs: J. Jia and P. Bodfors

Implied safety level in design codes for monopile offshore wind turbines - parametric study on the effect of partial safety factors

H. Amlashi, M. Karimirad & D. Barreto

Experimental study of long-term scour damage for protected offshore wind foundations

J. Chambel, T. Fazeres-Ferradosa, A.M. Bento, F. Taveira-Pinto & P. Lomónaco

Design of substructure of 10MW floating offshore wind turbine system based on dominant load parameters

S. Park, H. Lee & J. Choung

Mooring system optimization of 12MW FOWT in environment condition in the Southwest Sea of Korea

C. Shim, M.S. Kim, K. Kim & D. Jeong

16h15 to 17h45

Session 1.3

Structural Components

Room: Palmstedt Hall

Chairs: L. Brubak and M. Kõrgesaar

Review of the structural configuration and strength of metallic sandwich panels

M. Elsaka & C. Guedes Soares

Analysis of pontoon primary structure failure

S. Komariyah, T. Firmandha, & S. Anggara

Pontoon design and construction methodology of gangway

R. Sundaravadivelu, R. Natarajan, R.S. Sakthivel, L. Sony & S. Muthuraman

Significance of laser weld stiffness in vibration and buckling optimization of laser-welded web-core sandwich panels

S. Yan & J. Jelovica

16h15 to 17h45

Session 2.2

Impact

Room: Scania Hall

Chairs: J. Romanoff and J.W. Ringsberg

Experimental investigation of the repeated impact behaviour of rectangular plates

X. He & C. Guedes Soares

Crashworthiness analysis of semi-submersible platform column subjected to ship impact loads

F. Liu, R.-H. Li, C.-M. Liu, X.-Q. Zhou & G.-Q. Feng

Shape characterization and impact on the structural behavior of initially distorted, 4-mm thick ship-deck stiffened panels

F. Mancini, H. Remes, J. Romanoff, P. Lehto, M. Rautiainen, A. Niraula & A. Niemelä

Analysis of how the conditions in a collision scenario affect the size of a struck vessel's damage opening and ultimate strength

J.W. Ringsberg, A. Kuznecovs & E. Johnson

16h15 to 17h45

Session 3.3

Wind Turbine - Fatigue

Room: Valdemar

Chairs: F. von Bock und Polach and W. Mao

The effects of surge underprediction on fatigue damage of floating offshore wind turbine dynamic cables

E. Land, Z. Hu, N. Haley, W. Brindley & C. Ng

Tension angle assessment of mooring chain of a 10MW floating offshore wind turbine

H. Lee, J. Choung & J.-B. Lee

Fatigue assessment of offshore wind turbine support structures subjected to seawater

C. Woitzik, M. Braun, F. von Bock und Polach, S. Ehlers, S. Shojai & P. Schaumann

Impact of preload loss on fatigue strength of blade root bolts of a Floating Offshore Wind Turbine (FOWT)
T. Zheng & N.Z. Chen

Tuesday, 4 April 2023

09h00 to 10h30
Session 1.4
Fatigue 1
Room: Palmstedt Hall
Chairs: G. Storhaug and X. Lang

Consequence and uncertainty-informed fatigue life prediction of ships
M.L. Deul, C.H.H. van Battum, M. Hoogeland & J.W. van Bergen

Fatigue performance of aluminum alloy EN-AW 5083 cut edges produced by abrasive water jet and laser cutting
J-H. Grimm, N. Lange, M. Braun, F. von Bock und Polach, J. Diniz e Castro, M. Köhler & K. Dilger

Structural life expectancy assessment of an aging combatant ship using spectral fatigue analyses
K.P. Hernández, B. Verma, D.A. Carvajal & H.A. Barrios

Fatigue testing of multiaxial non-proportionally loaded T-nodes
J.K. Kamau, M.L. Larsen, V. Arora, T. Holm-Jensen & M. Jepsen

09h00 to 10h30
Session 2.3
Wave Loads 1
Room: Scania Hall
Chairs: W. Mao and C. Stavropoulou

Update of wave statistics standards for classification rules
H.N. Austefjord, G. de Hauteclouque, M.C. Johnson & T.Y. Zhu

Different strategies to improve isochrone voyage optimization algorithm
Y. Chen & W. Mao & C. Zhang

Estimation of nonlinear forces acting on floating bodies using machine learning
C. Eskilsson, S. Pashami, A. Holst & J. Palm

Comparative study of ship design load on various environmental conditions
T. Firmandha & S. Anggara

09h00 to 10h30
Session 3.4
Ultimate Strength
Room: Valdemar
Chairs: M. Gaiotti and J. Romanoff

Rule formulation updates on buckling strength requirements in Common Structural Rules
L. Brubak, A. Bøe, Y. Lv, K. Ishibashi & A. Bollero

Equivalent single layer approach for predicting ultimate strength of stiffened panel under different load combinations
M. Körgesaar, T. Putranto & J. Jelovica

Study on the modification and application of RTCL criterion considering the influence of mesh size
T.Q. Yu, K. Liu, X.F. Wang, H.W. Liu & G. Wang

The ultimate strength of sandwich plates with joints under in-plane compression
M.J. Zhao & D.Y. Wang

11h00 to 12h30
Session 1.5
Fatigue 2
Room: Palmstedt Hall
Chairs: J.W. Ringsberg and J-H. Grimm

A study on the development of a FPSO standard model (KRISO-FPSO) II: Focusing on fatigue assessment
M.S. Ki, K. Sim & K. Lee

Predicting failure of dynamic subsea cables by electrical insulation breakdown due to water treeing
Z. Li, J.W. Ringsberg, Y.V. Serdyuk, D. Svensson, E. Johnson & C. Andersson

On the application of Engineering Critical Assessment specified in BS 7910 to ship structures
E. McCaig & Y. Wang

Numerical analysis of pit-to-crack transition under corrosion fatigue using a stochastic pit generation algorithm
M. Mokhtari, X. Wang & J. Amdahl

11h00 to 12h30

Session 2.4

Wave Loads 2

Room: Scania Hall

Chairs: C. Eskilsson and C. Stavropoulou

On nonlinear wave loads of a mega-scale container ship using an elastic backbone model
Z. Hanaoka

Encounter spectra computation of heave motion based on full-scale measurements using ANN
M. Katalinić, P. Matić, N. Assani & J. Parunov

Data-driven ship fatigue assessment based on pitch and heave motions
X. Lang, J.W. Ringsberg, W. Mao, D. Wu & C. Zhang

Numerical simulation of ship motion and non-linear sea loads of a modern frigate in regular waves
Z. Zhang, N. Ma & Q. Shi

11h00 to 12h30

Session 3.5

Ultimate Strength - Cyclic Load

Room: Valdemar

Chairs: A. Zamarin and B.Q. Chen

Evaluation of residual plastic strain on a stiffened panel subjected to compression and tension-compression cyclic load
B. Barsotti & M. Gaiotti

FEM numerical strategies for the evaluation of the accumulated plastic strain due to a cyclic load condition
B. Barsotti & M. Gaiotti

Response of plates and stiffened panels under pressure and cyclic biaxial loading
S. Fanourgakis & E.S. Samuelides

Collapse response analysis of a ship's hull girder in cyclic focused waves using a hydro-elasto-plastic beam model
A. Tatsumi, S. Li & S. Benson

14h00 to 15h30

Session 1.6

Corrosion

Room: Palmstedt Hall

Chairs: Y. Wang and A. Kuznecovs

The integrity of corrosion protection systems of welded maritime structures under cyclic loading
G. Andresen-Paulsen, M. Braun, F. von Bock und Polach, T. Marquardt, A. Momber & S. Ehlers

Microstructural analysis of intergranular stress corrosion cracking in 5xxx series aluminum reinforced with a composite patch
X. Ma & S. TerMaath

Uncertainty quantification within strain-based SHM schemes used for detecting thickness loss in ship hulls
N.E. Sillionis & K.N. Anyfantis

Corrosion degradation impact on mechanical properties of structural steel
K. Woloszyk & Y. Garbatov

14h00 to 15h30

Session 2.5

Hull Girder Loads

Room: Scania Hall

Chairs: M. Körgesaar and J. Jelovica

Verification of onboard loading computer by laser measurements
D. Greening & G. Storhaug

Assessment of loads on a ship hull during a side-ways launching process based on model tests
A. Ulbertus, M. Schöttelndreyer & S. Ehlers

Hull structural loads during a sideways launching process using fluid structure interaction
A. Ulbertus, M. Schöttelndreyer & S. Ehlers

Study on fatigue design loads based on actual encountered loads
N. Yamamoto, T. Sugimoto & K. Ishibashi

14h00 to 15h30

Session 3.6

Ultimate Strength – Hull Girder

Room: Valdemar

Chairs: L. Brubak and B. Barsotti

Hull girder ultimate strength assessment according to rules requirements
M. Aguiari, C.M. Rizzo, M.P. Salio, E. García Sánchez, S. Lazaro Rey, M. Safta & A. Nedaei

Hull girder collapse analysis in extreme wave by direct coupled simulation between CFD and FEM
S.K. Pal, B. Xie, K. Iijima, A. Tatsumi & M. Fujikubo

Predicting ship's ultimate longitudinal strength considering the lateral pressure loading
S.-H. Park & S.-R. Cho

16h00 to 17h30

Session 1.7

Reliability

Room: Palmstedt Hall

Chairs: W. Mao and S.K. Kleivane

A Bayesian approach for the quantification of strength model uncertainty factor in ultimate limit state

D.G. Georgiadis & E.S. Samuelides

Structural reliability analysis of secondary hull detail

S.K. Kleivane & B.J. Leira

Concept of the probability-based ship operability analysis

T. Petranović, J. Parunov & C. Guedes Soares

Bayesian inference for the parameters of probabilistic corrosion model adopted by IACS

T. Takeuchi, N. Osawa & N. Yamamoto

16h00 to 17h30

Session 2.6

Dynamics and Vibration

Room: Scania Hall

Chairs: J. Parunov and M. Mokhtari

Motion analysis of a floating horizontal set of interconnected plates based on computer vision target tracking technique

I.B.S. Bispo, P. Amouzadrad, S.C. Mohapatra & C. Guedes Soares

Wind-induced vibration characteristics of typical guide rail frame structure in open area of large cruise ships

X.L. Feng, J. Gan, Y. Zhu, Z.H. Chen & W.G. Wu

Model test of a dual-spar floating wind farm in regular waves

Z. Jiang, G. Liang, T. Lopez-Olocco, A. Medina-Manuel, L.A. Saavedra-Ynocente & A. Souto-Iglesias

Acoustic Black Holes: the new frontier for soundproofing on board ships

G. Kyaw Oo D'Amore, G. Rognoni, M. Biot & F. Mauro

16h00 to 17h30

Session 3.7

Offshore Structures

Room: Valdemar

Chairs: J. Choung and B.Q. Chen

Predicting long-term extreme responses using two approaches with a case study of a jacket structure

L. Li, S. Haver & A. Eltervaag

Experimental study on the lateral bending capacity of steel pipes with initial dents

R. Li, B.Q. Chen & C. Guedes Soares

Collapse and burst analysis for a subsea sandwich pipe

Y. Qu & N.Z. Chen

Stress distribution in uniplanar KT joints reinforced with fibre reinforced polymer subjected to the axial loadings

E. Zavvar & C. Guedes Soares

Wednesday, 5 April 2023

09h00 to 10h30

Session 1.8

Ship Design

Room: Palmstedt Hall

Chairs: M. Gaiotti and Y. Wang

Integration of a tank storage solution for alternative fuels on a RoRo ship

C. Ait Aider, L. Roß, S. Ehlers, P. Kaeding & T. Lindemann

On the safety of offshore mooring systems

R. Yttervik, G. Ersdal & N. Oma

Experimental study on structure responses of triple wing sails to turbulence flows at multiple apparent wind angles

H. Zhu, V. Chernoray, H.-D. Yao, J.W. Ringsberg & B. Ramne

Numerical and experimental analysis of fire resistance for bulkhead and deck structures of ships and offshore installations

S. Zong, K. Liu, J.X. Wang, Z.G. Gao & Q. Sun

09h00 to 10h30

Session 2.7

Blast and Explosion

Room: Scania Hall

Chairs: S.-R. Cho and J. Choung

Prediction of damage extents due to in-compartment explosions in warships

W. Chang, B.C. Cerik & J. Choung

Anti-blast performance optimization design of corrugated sandwich structures based on BP-GA method

W. Qiu, K. Liu, J. Wang & Z. Gao

Time delay effect in the dynamic response of submerged cylinder subjected to an underwater explosion

Y.P. Sone Oo, H. Le Sourne & K. Brunellière

Recent studies on the saturated impulse for ship structures under pressure pulse loading

L. Zhu, L. Tian & T.X. Yu

09h00 to 10h30

Session 3.8

Ice

Room: Valdemar

Chairs: Z. Li and F. von Bock und Polach

Application of the CASFOP taxonomy to analyse an ice incursion incident with a FPSO

U. Bhardwaj, A.P. Teixeira & C. Guedes Soares

Fluid-structure interaction simulations using a hydrodynamic plug-in HydroQus

J. Choung, D.H. Yoon & J. Kim

A rate and pressure dependent elastoplastic material model for glacial ice colliding with marine structures

M. Mokhtari, E. Kim & J. Amdahl

Study on the annual changing trend of Arctic Sea ice melting for merchant shipping

Z. Wang, J. Zhang, D. Wu, W. Tian, X. Lang & W. Mao

11h00 to 12h30

Session 1.9

Ship Design and Optimization

Room: Palmstedt Hall

Chairs: J. Parunov and J. Jelovica

Comparison of metaheuristic algorithms and constraint handling approaches for multi-objective optimization of a tanker

Y. Cai & J. Jelovica

Structural optimization of cell guides for container securing as a retrofit solution on barge

S. Haberl, A.S. Milaković, F. von Bock und Polach, O. Detlefsen, M. Abdel-Maksoud, S. Ehlers, L. Horstmann & C. Ahlers

Ship design optimization considering probabilistic compliance of decarbonization regulations

J. Huang, Q. Wei & Y. Liu

Lightweight design and topology optimization of marine structures using peridynamics

A. Kendibilir & A. Kefal

11h00 to 12h30

Session 2.8

Composites

Room: Scania Hall

Chairs: J.W. Ringsberg and E.P. Bilalis

Finite element analysis of filament wound composite materials split disk tests

E.P. Bilalis & N.G. Tsouvalis

Experimental and numerical study of composite materials drive shafts

E.P. Bilalis & N.G. Tsouvalis

Thermal and rheological study of structural adhesives for naval construction

F.J. Rodríguez-Dopico, B. Sánchez Silva, A. Álvarez García, Jorge López-Beceiro & R. Artiaga

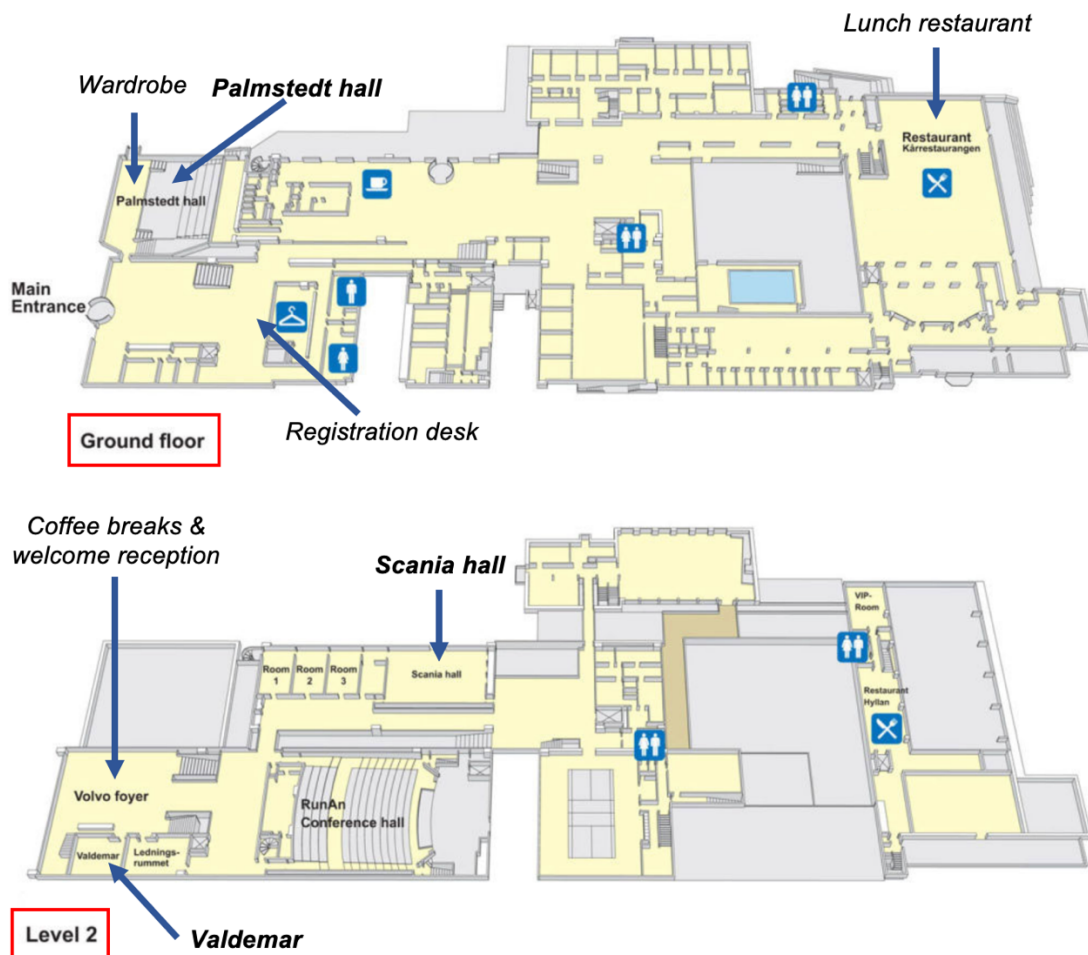
Experimental analysis of ballistic impact on carbon, glass and hybrid composite under hydrostatic prestrain

V. Vijay Kumar, S. Rajendran & S. Ramakrishna

IMPORTANT INFORMATION

- The technical sessions of the MARSTRUCT 2023 Congress will run in Chalmers University of Technology's Conference Center located at Campus Johanneberg, on the Ground Floor and Level 2 of the Union Building.
- All the MARTSRUCT 2023 technical sessions will be transmitted online via the Zoom system.
- The timetable is settled taking into consideration the Time Zone Gothenburg/GMT+1h time

The MAP below shows the location of the conference rooms in the Union Building of Chalmers University of Technology's Conference Center on Campus Johanneberg. Lunches will be served in the Union Building Restaurant for the registered participants with lunch tickets.



Guidelines for presentations, questions and answers:

- Each paper will have a timeslot of 20 minutes (15 minutes for the presentation and 5 minutes for Questions & Answers).
- If you intend to participate online using the Zoom system, you are advised to test all technology before the conference.
- Make sure you follow the timetable set out in the programme and the order of presentations.

Additional information:

Wireless Access

Eduroam is available in the Union Building.

Participants who do not have access to Eduroam can collect login details to Chalmers's network NOMAD at the registration desk.

Organised by:

Co-host:



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UNIVERSITY OF TECHNOLOGY



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Proceedings of MARSTRUCT 2023, the 9th International Conference on Advances in the Analysis and Design of Marine Structures, Gothenburg, Sweden, 3-5 April 2023

