

SCHEDULE AT A GLANCE

<i>Monday, 7 June 2021</i>	
NTNU - Online Congress Central European Time	
Opening and Welcome Session – (9h00-9h30)	
<i>Session 1.1 (9h30-11h00)</i> Buckling and Ultimate Strength of Hull and Bridge Deck Girders	<i>Session 1.2 (9h30-11h00)</i> Corrosion
<i>Coffee-break (11h00 – 11h30)</i>	
<i>Session 2.1 (11h30-13h00)</i> Buckling and Ultimate Strength of Stiffened Panels	<i>Session 2.2 (11h30-13h00)</i> Fatigue
<i>Lunch (13h00-14h30)</i>	
<i>Session 3.1 (14h30-16h00)</i> Residual Strength of Damaged Structures	<i>Session 3.2(14h30-16h00)</i> Composite Structures
<i>Coffee-break (16h00-16h30)</i>	
<i>Session 4.1 (16h30-18h00)</i> Risk Analysis and Design Codes	<i>Session 4.2(16h30-18h00)</i> Wave Loads and Seakeeping
<i>Tuesday, 8 June 2021</i>	
<i>Session 5.1 (9h00-10h30)</i> Ship and Offshore Structures Collision	<i>Session 5.2 (9h00-10h30)</i> Ship Structural Analysis and Design
<i>Coffee-break (10h30-11h00)</i>	
<i>Session 6.1 (11h00-12h30)</i> Impact and Crashworthiness	<i>Session 6.2 (11h00-12h30)</i> Ship Structural Design
<i>Lunch (12h30-14h00)</i>	
<i>Session 7.1 (14h00-15h30)</i> Collision and Grounding	<i>Session 7.2 (14h00-15h30)</i> Methods and Tools for Structural Design and Optimization
<i>Coffee-break (15h30-16h00)</i>	
<i>Session 8.1 (16h00-18h30)</i> Collision with Floating Offshore Wind Turbines and Bridges	<i>Session 8.2 (16h00-17h30)</i> Materials and Fabrication of Structures
<i>Wednesday, 9 June 2021</i>	
<i>Session 9.1 (9h00-10h30)</i> Slamming	<i>Session 9.2 (9h00-10h30)</i> Structural Reliability
<i>Coffee-break (10h30-11h00)</i>	
<i>Session 10.1 (11h00-13h00)</i> Explosions	<i>Session 10.2 (11h00-12h30)</i> Hull Monitoring and Inspection
<i>Lunch (12h30-14h00)</i>	
End of MARSTRUCT 2021 Conference	

SESSIONS IN ALPHABETICAL ORDER

- Buckling and Ultimate Strength of Hull and Bridge Deck Girders, Monday, 7th June, 2021 (09h30-11h00), Session 1.1
- Buckling and Ultimate Strength of Stiffened Panels, Monday, 7th June, 2021 (11h30-13h00), Session 2.1
- Collision and Grounding, Tuesday, 8th June, 2021 (14h00-15h30), Session 7.1
- Collision with Floating Offshore Wind Turbines and Bridges, Tuesday, 8th June, 2021 (16h00-18h30), Session 8.1
- Composite Structures, Monday, 7th June, 2021 (14h30-16h00), Session 3.2
- Corrosion, Monday, 7th June, 2021 (09h30-11h00), Session 1.2
- Explosions, Wednesday, 9th June, 2021 (11h00-13h30), Session 10.1
- Fatigue, Monday, 7th June, 2021 (11h30-13h00), Session 2.2
- Hull Monitoring and Inspection, Wednesday, 9th June, 2021 (11h00-12h30), Session 10.2
- Impact and Crashworthiness, Tuesday, 8th June, 2021 (11h00-12h30), Session 6.1
- Materials and Fabrication of Structures, Tuesday, 8th June, 2021 (16h00-18h00), Session 8.2
- Methods and Tools for Structural Design and Optimization, Tuesday, 8th June, 2021 (14h00-15h30), Session 7.2
- Residual Strength of Damaged Structures, Monday, 7th June, 2021 (14h30-16h00), Session 3.1
- Risk Analysis and Design Codes, Monday, 7th June, 2021 (16h30-18h00), Session 4.1
- Ship and Offshore Structures Collision, Tuesday, 8th June, 2021 (09h00-10h30), Session 5.1
- Ship Structural Analysis and Design, Tuesday, 8th June, 2021 (09h00-10h30), Session 5.2
- Ship Structural Design, Tuesday, 8th June, 2021 (11h00-12h30), Session 6.2
- Slamming, Wednesday, 9th June, 2021 (09h00-10h30), Session 9.1
- Structural Reliability, Wednesday, 9th June, 2021 (09h00-10h30), Session 9.2
- Waves Loads and Seakeeping, Monday, 7th June, 2021 (16h30-18h00), Session 4.2

DETAILED PROGRAMME

MARSTRUCT 2021 Programme

Monday, 7 June 2021

Opening Session – (9h00-9h30) – Central European Time
Welcome - Prof. Jørgen Amdahl and Prof. C. Guedes Soares

Session 1.1 (9h30-11h00)
**Buckling and Ultimate Strength
of Hull and Bridge Deck Girders**

Chairperson: Yanyan Sha

Effect of low cycle/high amplitude loads on the moment carrying capacity of ship's hulls (#7)

M. Preventas, S. Fanourgakis & M.S. Samuelides

Numerical Estimation of Ultimate Strength on Double Hull Oil Tanker Cargo Area (#23)

M.Z. Muis Alie, M. Fathurahkman, Juswan, F.A. Prasetyo

A Timoshenko Beam Finite Element Formulation for Thin-Walled Box Girder Considering Inelastic Buckling (#5)

S. Li, S. Benson & R.S. Dow

Session 1.2 (9h30-11h00)

Corrosion

Chairperson: Bernt J. Leira

Experimental Studies on the Residual Strength of Corroded Stiffened Plates (#75)

S-H. Park, J-S. Kim, S-R. Cho, Y-S. Jang, & N-K. Baek

Development of a global corrosion map towards digital twin applications for marine structures (#83)

Z. Wang, Y. Wang & A.J. Sobey

Corrosion Detection with Computer Vision and Deep Learning (#84)

A. Matthaiou, G. Papalambrou & M.S. Samuelides

Break (11h00 – 11h30)

Session 2.1 (11h30-13h00)

Buckling and Ultimate Strength of Stiffened Panels

Chairperson: Jonas Ringsberg

Prediction of the ultimate strength of a stiffened plate through the investigation of a stiffener-plate element: effect of boundary conditions (#4)

V. Panagiotopoulos & M.S. Samuelides

Influence of Stochastic Geometric Imperfection on the Ultimate Strength of Stiffened Panel in Compression (#6)

D.G. Georgiadis, M.S. Samuelides, S. Li, D.K. Kim & S. Benson

WeldInp – Method to include welded zones in large numerical ABAQUS FE models (#48)

M. Körgesaar, T. Jalasto & H. Alsos

Session 2.2 (11h30-13h00)

Fatigue

Chairperson: Yordan Garbatov

Fatigue life estimation of welded joint in a jacket leg using stochastic finite element analysis (#18)

M.L. Larsen, V. Arora & S. Adhikari

Full-scale fatigue damage investigation of a slamming-prone vessel with unique section modulus characteristics (#25)

K. Pferdekamper & A. Bekker

Loads from waves and current for flexible tarps (#19)

A.J. Berstad

Lunch Break (13h00-14h30)

<p style="text-align: center;"><i>Session 3.1 (14h30-16h00)</i> Residual Strength of Damaged Structures <i>Chairperson: Hervé Le Sourné</i></p> <p>A 3D ultimate limit state surface for intact and collision-damaged ship hulls (#1) A. Kuznecovs, & J.W. Ringsberg</p> <p>Residual ultimate strength assessment of collision-damaged steel floating bridge girders (#38) Yanyan Sha, Z.L. Yu & J. Amdahl</p> <p>Ultimate Strength Performance of Full-Scale Degraded Ship Structures (#50) K. Nahshon, M. Smith, G. Shilling, T. Magoga & R. Chiritoiu</p>	<p style="text-align: center;"><i>Session 3.2(14h30-16h00)</i> Composite Structures <i>Chairperson: Zhiqiang Hu</i></p> <p>Real-Time Monitoring of Crack Propagation in Fiber-Reinforced Composite Plates using iFEM Methodology (#81) A. Kefal, I.E. Tabrizi & M. Yildiz</p> <p>Buckling and material failure analyses on composite cylindrical shells subjected to hydrostatic pressure (#87) X. Zhang, W.B. Xu, Z. Li, K. Shen, L. Jiang, G. Pan & C. Guedes Soares</p> <p>Delamination Damage Identification in Composite Shell Structures based on Inverse Finite Element Method and Refined Zigzag Theory (#80) A. Kefal & A. Tessler</p>
<p><i>Break (16h00-16h30)</i></p>	
<p style="text-align: center;"><i>Session 4.1 (16h30-18h00)</i> Risk Analysis and Design Codes <i>Chairperson: Ove T. Gudmestad</i></p> <p>A risk based approach for equivalent safety assessment of alternative fuels for green shipping (#47) P.S. van Lieshout, T.S.J. van Dijk, C.E.C. Hulsbosch Dam, A.J.W. van den Brink & A.W. Vredeveltd</p> <p>Barrier Management Applied to FPSO Project (#52) F. Soares Freitas, F. Reis Carreiro, M.C. Tapia Reyes & I. Quaresma Masetti</p> <p>Application of decision trees to predict damage consequences during the progressive flooding (#79) L. Braidotti, J. Prpić-Oršić & Marko Valčić</p>	<p style="text-align: center;"><i>Session 4.2(16h30-18h00)</i> Wave Loads and Seakeeping <i>Chairperson: Spyros Hirdaris</i></p> <p>Operability study of passenger ship in the Adriatic Sea using hindcast database (#37) T. Petranović, A. Mikulić, J. Parunov & M. Katalinić</p> <p>Numerical investigation of the seakeeping behaviour of a polar vessel in head waves (#16) A. van Zuydam & A. Bekker</p> <p>Estimation of rogue wave loads on ship structures by exploiting linear wave theory (#42) M. Acanfora, T. Coppola & E. Fasano</p>

MARSTRUCT 2021 Programme

Tuesday, 8 June 2021

<p style="text-align: center;"><i>Session 5.1 (9h00-10h30)</i> Ship and Offshore Structures Collision <i>Chairperson: Sang-Rai Cho</i></p> <p>Ship collisions events against reinforced concrete offshore structures (#8) L. Marquez, P. Rigo & H. Le Sourné</p>	<p style="text-align: center;"><i>Session 5.2 (9h00-10h30)</i> Ship Structural Analysis and Design <i>Chairperson: Manolis Samuelides</i></p> <p>Structural design and analysis of large RO-RO ship (#31) J. Andrić, P. Prebeg, M. Bcak, S. Pavletić, A. Dmitrasinović & K. Pirić</p>
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<p>Discussions on the ductile fracture prediction of ship structures under impact loads (#9) Y. Lu, K. Liu, Z. Wang, W. Tang & J. Amdahl</p> <p>Design against ship collisions in accordance with the new DNV RP C204 (#88) J. Amdahl & Z.L. Yu</p>	<p>Structural re-design of a composite pleasure craft with direct and numerical calculations (#82) D. Boote, G. Vergassola, V. Hydar & S. Mitolo</p> <p>Environmental impact of light-weight structures in marine applications (#67) G. Palomba, V. Crupi & Y. Garbatov</p>
<p><i>Break (10h30-11h00)</i></p>	
<p style="text-align: center;"><i>Session 6.1 (11h00-12h30)</i> Impact and Crashworthiness <i>Chairperson: Zhaolong Yu</i></p> <p>Investigation of accumulated plastic damage on ship plates subjected to repeated ice impacts (#77) W. Cai & L. Zhu</p> <p>Dynamic Behavior of Sandwich Beam with Metal Foam under Repeated Impacts Loadings (#76) K. Guo, L. Zhu, X.G. Wang & D. Liu</p> <p>Improving crashworthiness calculations for safe containment of hazardous fuels (#43) N.P.M. Werter, T.S.J. van Dijk, S.J. van den Boom, O.J. Coppejans & A.W. Vredeveltd</p>	<p style="text-align: center;"><i>Session 6.2 (11h00-12h30)</i> Ship Structural Design <i>Chairperson: Jerolim Andric</i></p> <p>Class Societies virtual approval in shipbuilding. The certification of the reality (#86) R. Pérez Fernández & M. Toman Fernández</p> <p>Design loads for marine facilities (#85) O.T. Gudmestad & S. Nepal</p> <p>Green design of strip-planked Iroko wood for boatbuilding (#69) S. Bertagna, A. Marinò, P. Corigliano & V. Crupi</p>
<p><i>Lunch break (12h30-14h00)</i></p>	
<p style="text-align: center;"><i>Session 7.1 (14h00-15h30)</i> Collision and Grounding <i>Chairperson: Ling Zhu</i></p> <p>Review of the uncertainties in load and strength modelling in ship collisions (#59) S.J. Kim, M. Körgesaar, P. Lehto, K. Berntsson, J. Min Sohn, S. Hirdaris & J. Romanoff</p> <p>Rapid assessment of ship bottom sliding on paraboloid shaped rock (#11) J-P. Pineau & H. Le Sourne</p> <p>On the influence of buoyancy forces, failure strain and friction coefficient on the damage extent of a grounded ship (#64) H. Le Sourne, J-P. Pineau, C.B. Ummunnakwe, T. Wesoly & O. Dorival</p>	<p style="text-align: center;"><i>Session 7.2 (14h00-15h30)</i> Methods and Tools for Structural Design and Optimization <i>Chairperson: Ekaterina Kim</i></p> <p>Assessment of VIV fatigue of subsea template jumper by using a time domain model (#2) L. Sieber, S. Sævik, J.W. Ringsberg & ZH. Liu</p> <p>Blade deformation prediction of floating wind turbine based on an AI-based SADA method (#12) P. Chen & ZQ. Hu</p> <p>Fatigue damage analysis of dynamic power cables by laboratory testing and FE analysis (#3) G. Svensson, S. Sævik & J.W. Ringsberg</p>
<p><i>Break (15h30-16h00)</i></p>	
<p style="text-align: center;"><i>Session 8.1 (16h00-18h30)</i> Collision with Floating Offshore Wind Turbines and Bridges <i>Chairperson: Mihkel Körgesaar</i></p>	<p style="text-align: center;"><i>Session 8.2 (16h00-18h00)</i> Materials and Fabrication of Structures <i>Chairperson: Svein Sævik</i></p>

<p>Assessment of the energy balance gap for ship-FOWT collision simulations with LS-DYNA/MCOL (#10) Í. Ladeira, H. Le Sourne, S. Echeverry & P. Rigo</p> <p>Ship collision against a 10 MW semi-submersible floating offshore wind turbine (#14) ZL. Yu & J. Amdahl</p> <p>A nonlinear numerical simulation approach for the dynamic responses analysis of floating wind turbine under ship impact scenario (#15) Y. Zhang & ZQ. Hu</p> <p>Response of aluminium bridge girders subjected to shipping container impacts (#39) S.M. Dyrkolbotn, Y. Sha & Z. Liu</p> <p>Numerical study of the structural consequences of ship impacts on a floating bridge in a risk analysis perspective (#93) Y. Jin, Y. Sha & T. Moan</p>	<p>Vessel's Structure Fabrication Process Measurement –A Dry-Docking Case (#17) D. Rabar & D. Pavletić</p> <p>On the potential of Robotic Additive Manufacturing platforms for marine applications (#34) Simone Scattareggia Marchese, Sandro Scattareggia Marchese & V. Crupi</p> <p>Effect of Manufacturing Parameters on the Mechanical Properties of Filament Wound Composite Materials (#62) P.S. Chatzinas, E.P. Bilalis, A.Z. Papadakis & N.G. Tsouvalis</p> <p>Comparison of Matrix Digestion and Image Analysis Methods for Measuring Fiber Content of Filament Wound Composite Materials (#61) P.S. Chatzinas, D.E. Tsiourva, E.P. Bilalis & N. Tsouvalis</p>
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MARSTRUCT 2021 Programme

Wednesday, 9 June 2021

<p><i>Session 9.1 (9h00-10h30)</i> Slamming <i>Chairperson: Burak Can Cerik</i></p> <p>Free-fall water entry of a variable deadrise angle aluminum wedge: an experimental study (#20) S. Hosseinzadeh & K. Tabri</p> <p>Experimental and numerical validation of an analytical hydro-plastic model for the prediction of structural damage in extreme water slamming (#13) ZL. Yu, A. Cao & J. Amdahl</p> <p>Experimental and Numerical Investigation of High Frequency Vibrations in Segmented Ship Model Using One-Way Coupling of CFD and FEM (#90) S.K. Pal, K. Iijima, A. Tatsumi, M. Fujikubo & T. Takami</p>	<p><i>Session 9.2 (9h00-10h30)</i> Structural Reliability <i>Chairperson: Adnan Kefal</i></p> <p>Structural reliability of a novel offshore floating photovoltaic system to supply energy demands of ports (#21) M. López, R. Claus, F. Soto, A. Cebada & Z.A. Hernández-Garrastacho</p> <p>Local buckling reliability assessment of corroded subsea pipelines under combined loads (#73) U. Bhardwaj, A.P. Teixeira & C. Guedes Soares</p> <p>Inland water floating debris cleanup vessel (#92) A. Bleoju, A.M. Pohlca & C.I. Mocanu</p>
<p><i>Break (10h30-11h00)</i></p>	
<p><i>Session 10.1 (11h00-13h30)</i> Explosions <i>Chairperson: Kristjan Tabri</i></p>	<p><i>Session 10.2 (11h00-12h30)</i> Hull Monitoring and Inspection <i>Chairperson: Bernt J. Leira</i></p>

<p>Experimental studies of the motion characteristics of bubble close to a flexible structure with attached air bubble (#24) XH. Wen, JX. Wang & K. Liu</p> <p>Analysis of the underwater explosion shock effects on a typical naval ship foundation structure: experimental and numerical investigation (#27) F. Mannacio, A. Barbato, C.M. Rizzo & M. Gaiotti</p> <p>Estimation of damage extents and evaluation of survivability of surface ships subjected to near-field explosion (#40) B.C. Cerik & J. Choung</p> <p>Evaluation of fracture criterion based on the RVE model for evaluation of collision accidents (#45) D. Sagástegui</p> <p>Response of composite plates in air-backed and water-backed conditions subjected to a far-field underwater explosion (#89) Y.P. Sone Oo, H. Le Sourne & O. Dorival</p>	<p>Hull Structural Response Prediction Using Distortion Base Modes (#36) DY. Lee, B-S. Jang & J.W. Ringsberg</p> <p>Structural surface assessment of ship structures intended for robotic inspection applications (#72) F.M. Shah, T. Gaggero, M. Gaiotti, L. Ivaldi & C.M. Rizzo</p> <p>Estimation of the deflection field over a ship structure model based on pointwise measurements (#46) D. Dessi & F. Passacantilli</p>
<p>End of MARSTRUCT 2021 Conference</p>	

HOW TO JOIN THE SESSIONS:

For Plenary Sessions and Sessions in LEFT column in the program

Join Zoom Meeting
<https://NTNU.zoom.us/j/98930953134?pwd=YmEycEhXSEZhMWtLWXpTU0Y0bjdlZz09>

Meeting ID: 989 3095 3134
 Passcode: 467573

Join by SIP
 98930953134@zoomcrc.com

Join by Skype for Business
<https://NTNU.zoom.us/skype/98930953134>

For Sessions in RIGHT column in the program

Join Zoom Meeting
<https://NTNU.zoom.us/j/99364471475?pwd=N0RIQ0dLZGR1R2kzWWpteHJETkVadz09>

Meeting ID: 993 6447 1475
 Passcode: 035363

Join by SIP
99364471475@zoomcrc.com

Join by Skype for Business
<https://NTNU.zoom.us/skype/99364471475>

GENERAL RESPONSIBILITIES OF THE SESSION CHAIR

Introduce the session and the presenters and inform that questions may be given orally or by typing in the chat. The session will not be recorded

If a presenter does not show up prior to the session and no prerecorded video exists, this means no show, and the presentation will be skipped. The session will run continuously, but more time may then be allotted to the remaining presentations and for Questions & Answer (Q&A)

The presenters shall be given the opportunity to have an oral presentation, even if a prerecorded video is available. This should be agreed with the Chair before the start-up of the session. Preferably, a test of the share screen functionality should be done prior to the session. If the functionality is not working convincingly, the prerecorded video should be run.

Ask the audience to mute the microphone and stop the video during presentations.

Remind the questioner to unmute microphone and start the video during the Q&A period

In the Q&A period, start with the questions in the order typed in the chat. The questioner may be given the opportunity to give it orally, or the chair may read the question to the presenting author.

Conclude the session.

Make sure the time is strictly adhered to and does not extended past the allocated time. (this may impose problems for the start-up of the following session)

If the video is too long, the Chair shall ask the Technical Assistant (TA) to stop the playing

Please join the session 10-15 minutes in advance. Please test your microphone once joined so that the session can start on time.

INSTRUCTIONS FOR PRESENTERS

Please present yourself to the Chair 10-15 minutes before the start of the session

Missing presence prior to the session and no prerecorded video has been submitted means no show, and the presentation will be skipped

Agree with the Chair whether the presentation shall be made orally or by playing the video

Make sure that the oral presentation or the video is not too long to comply with the 30 minutes scheme for presentation and Q & A.

GENERAL RESPONSIBILITIES FOR THE TECHNICAL ASSISTANT (TA)

Assist the chair in running the session smoothly and solve issues that may arise.

The TA should be the **Host** of the meeting. Please remember to make the subsequent TA the new **Host**

Make sure that the share screen option for participants is opened in "Security"

Start the video presentation when this is available and is desired.

If need be, start the Power Point back-up file and move forward in the presentation according to instructions from the presenter.

Please join the session at least 15-20 minutes in advance