Advancements in Marine Structures

1st International Conference on Marine Structures

PROGRAMME

12 -14 March 2007

Glasgow

Venue: Corinthian, 191 Ingram St
Glasgow, G1 1DA, UK
Monday 12th March, 2007 (Room No.1)

08 30 Registration

09 00 MARSTRUCT NoE General Assembly (for Consortium Representatives)

10 15 Opening session

WELCOME SPEECH
By
Sir Muir Russell KCB FRSE
Principal, University of Glasgow, United Kingdom.

Session 1   Methods & Tools for Loads & Load effects (Room No.1)
Session Chairs: J.J. Jensen & K.S.Varyani

10 30 Uncertainty of average wave steepness prediction from global wave databases, E.M. Bitner-Gregersen & C. Guedes Soares
11 00 Ship weather routing based on sea keeping performance, M.B. Pacheco & C. Guedes Soares
11 30 On Extreme Ship Response in Severe Short-Term Sea State, T. Fukasawa, H. Kawabe & T. Moan
12 00 Extreme response estimation of marine structures based on design contours and response surface methods, B.J. Leira

12 30 Lunch

Session 2   Methods & Tools for Loads & Load effects
Session Chairs: A. Incecik & P. Temarel

14 00 Extreme value predictions and critical wave episodes for marine structures by FORM, J. Juncher Jensen
14 30 Effect of ship length on the vertical bending moments induced by abnormal waves, N. Fonseca, C. Guedes Soares & R. Pascoal
15 00 The 2D numerical modelling of slamming on a wedge and bow shape using the finite volume method, A. Ioan & L. Domnisoru
15 30 Derivation of slamming loads using the optimal state estimation method, J.T. Tuitman & W. Trouwborst

16 00 – 16 30 Coffee/Tea Break

16 30 Wave Induced Global Loads for a Damaged Vessel, L. Folso, E. Rizzuto & E. Pino
17 00 Investigation of the variation of loads experienced by a damaged ship in waves, T.W.P. Smith, K.R. Drake & S. Rusling
17 30 Time domain simulation of ship global loads due to progressive flooding, T.A. Santos & C. Guedes Soares
18 00 Effective breakwaters for high speed container vessels, K. S. Varyani & X.P. Pham

18 30 End of Sessions

19 00 CIVIC RECEPTION
Monday 12th March, 2007 (Room 2)

Session 3  Methods & Tools for Strength Assessment
Session Chairs:  P.Varsta & P. Hess

10 30  Effects of changes in curvature on the natural characteristics of curved structures, B. Hu, J. T. Xing, R. A. Shenoi & J. Smith
11 00  Numerical analysis of eigen vibration modes for an orthotropic ship structural panel, I. Chirica & L. Domnisoru
11 30  Hydroelastic Analysis of Cantilever Plate in Time Domain, F. Kara & D. Vassalos

12 30  Lunch

Session 4  Methods & Tools for Strength Assessment
Session Chairs:  M. Samuelides, C.Wang

14 00  Non-linear hydroelastic response analysis in head waves, for a large bulk carrier ship hull, L. Domnisoru & A. Ioan
14 30  The natural vibration characteristics of a Water – Shell Tank interaction system, J.T. Xing, Y.P. Xiong & M. Tan
15 00  Broadband excitation induced by propellers and ships comfort evaluation, F. Besnier, N. Buannic, L. Jian & A. Blanchet, S.Branchereau
15 30  On the influence of boundary conditions on the vibrations of ship propulsion systems, L. Murawski

16 00 – 16 30  Coffee/Tea Break

16 30  First-Principles Collision Analysis for Design, G. Mermiris, D. Vassalos & D. Konovessis
17 00  A Method for Progressive Structural Crashworthiness Analysis under Collisions and Grounding, J.K. Paik & J.K. Seo
17 30  Studies on the Behaviour of Double Bottoms during Grounding, M. Samuelides, J. Amdahl & B. Dow

18 00  End of Sessions

19 00  CIVIC RECEPTION
Tuesday 13th March, 2007 (Room 1)

Session 5  Methods & Tools for Structural Design & Optimisation
Session Chairs: Y. Sumi & N. Besnard

09 00  Benchmark on ship structural optimisation, N. Besnard, M. Codda, A. Ungaro, C. Toderan, A. Klanac & F. Pécot


10 00  A concept of omni-optimization for ship structural design, A. Klanac & Jelovica (21)

10 30  Least cost optimization of a large passenger vessels, T. Richir, N. Losseau, E. Pircalabu, C. Toderan & P. Rigo

11 00 – 11 30  Coffee/Tea Break

11 30  Structural optimization in fatigue-life assessment concerning a DDG of Ammiraglì Class of the Italian Navy, G. Vacca, M. Gallusi & S. Simone

12 00  Decision support problem formulation for structural concept design of ship structures, V. Zanti, P. Prebegn & S. Kitarovic

12 30  Lunch

Session 6  Experimental Analysis of Structure (Room No. 1)
Session Chairs: S. Gielen & R. A. Shenoi

14 00  A plea for large-scale testing, B. Boon

14 30  Experimental evaluation of the behavior of a mild steel box girder under bending moment, J.M. Gordo & C. Guedes Soares

15 00  An experimental and numerical study on GFRP box girder under pure bending, C. Guedes Soares, N.Z. Chen, F.M. Santos & C. Santos

15 30 – 16 00  Coffee/Tea Break

16 00  Structural loads and response analysis for a Canadian frigate, D. C. Stredulinsky, N. G. Pegg, C. P. Gardiner

16 30  Numerical Study of the absorbed energy in clamped beams with different lengths under transverse impact, D. M. Dimas, C. Guedes Soares

17 00  Measuring damping properties of viscoelastic materials for marine applications, A. Ferrari & E. Rizzuto

17 30  End of Sessions

19 00  CONFERENCE DINNER
Tuesday 13th March, 2007 (Room 2)

Session 7  Methods & Tools for Strength Assessment
Session Chairs: J.K. Paik & J.M. Gordo

09 00  The racking analysis in the early stages of structural design, V. Amatulli, M. Biot & L. Schiffrer
09 30  Residual strength and survivability of ships under combined vertical and horizontal bending, I.A. Khan & P.K. Das
10 30  Formulation for Ultimate Shear Strength of Ship Structure, S. Zhang & P. Kumar

11 00 – 11 30  Coffee/Tea Break

12 00  Bending response of laser-welded web-core sandwich plates, J. Romanoff & P. Varsta

12 30  Lunch

Session 8  Methods & Tools for Strength Assessment
Session Chairs: B. Dow & N. Barltrop

14 30  Development of a numerical simulation method for fatigue crack propagation in structures under variable amplitude loading, T. Okawa & Y. Sumi
15 00  Analysis of sharp corners in structural details, L. Xu & N. Barltrop

15 30 - 16 00  Coffee/Tea Break

16 00  A numerical approach for fatigue crack propagation in ship structures under wave loading – A review of the development of CP System, Y. Sumi & T. Okawa
16 30  Fatigue strength assessment of floating production storage and unloading vessels, Y. Garbatov, S. Tomasevic & C. Guedes Soares
17 00  Global strength analysis in head waves, for a tanker with longitudinal uniform structure, L. Stoicescu & L. Domnisoru

17 30  End of Sessions
**Wednesday 14th March, 2007 (Room 1)**

**Session 9  Structural Reliability, Safety and Environmental Protection**  
*Session Chairs: Y. Garbatov & B. Leira*

- **09 00** Structural system reliability using FEM and reliability processor, *M. Shabid & P.K. Das*
- **09 30** Practical reliability assessment method of ship’s hull girder in longitudinal bending, *K. Iijima, Y. Fujii & T. Yao*
- **10 00** Structural Reliability Levels in Ice Class Rules, *X. Wang, H. Sun & R. Basu*
- **10 30** Impact of the new common structural rules on the reliability of a bulk carrier, *A.W. Hussein, A.P. Teixeira & C. Guedes Soares*

**11 00 – 11 30 Coffee/Tea Break**

- **11 30** Inland water going ship risk assessment, *G.V. Egorov*
- **12 00** Factors affecting the non-destructive inspection of marine structures, *A. Zayed, Y. Garbatov & C. Guedes Soares*
- **12 30** Holistic analysis of ship’s sustainability, *O. Cabezas-Basurko, E. Meshahi & S. R. Moloney*

**13 00** Lunch

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**Wednesday 14th March, 2007 (Room 2)**

**Session 10  Material and Fabrication of Structures**  
*Session Chairs: B. Hayman & T. Jastrzębski*

- **09 00** Buckling strength of square composite plates with geometrical imperfections – preliminary results, *C. Berggreen, C. Jensen & B. Hayman*
- **09 30** Vibration characteristics of smart sandwich beams embedded with magnetorheological elastomer cores, *W.J. Choi, Y.P. Xiong & R.A. Shenoi*
- **10 00** Improving the strength of adhesive butt joints for pultruded composites, *S.A. Hashim, O. Fozzard & P.K. Das*
- **10 30** A review of the causes of production defects in marine composite structures and their influence on performance, *B. Hayman, C. Berggreen & N.G. Tsouvalis*

**11 00 – 11 30 Coffee/Tea Break**

**Session 11  Experimental Analysis of Structure (Room 2)**  
*Session Chairs: J. T. Xing & N Pegg*

- **11 30** A benchmark study on ductile failure criteria for shell elements in multi-axial stress state, *K. Tabri, H. Alsos, J. Broekhuijsen & S. Ehlers*
- **12 00** Comparison of experimental and numerical impact loads on ship-like sections, *I. Alexandru, S. Brizzolara, M. Viviani, N. Conty, R. Donner, O. Hermundstad, T. Kukkanen*

**12 30** End of Sessions

**13 00** End of Conference

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**Wednesday 14th March, 2007 (Room 1 and Room 2)**

Available for MARSTRUCT/ Other meetings (14 00 onwards)
Conference Chairs

C. Guedes Soares, IST, Technical University of Lisbon, Portugal
P.K. Das, Universities of Glasgow & Strathclyde, UK

Technical Programme Committee

N. Barltrop, University of Glasgow & Strathclyde, UK
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