

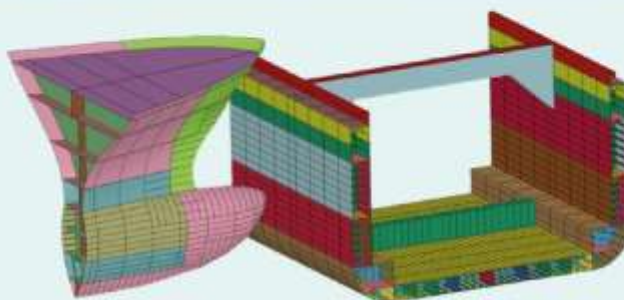


TÉCNICO
LISBOA



8th International Conference on Collision and
Grounding of Ships and Offshore Structures

ICCGS 2019



PROGRAMME

21 - 23 October 2019

IST Congress Centre
LISBON, PORTUGAL

ORGANISATION

Conference Chairman

Carlos Guedes Soares, IST, Universidade de Lisboa, Portugal

Steering Committee

Carlos Guedes Soares, IST, Universidade de Lisboa, Portugal

Jorgen Amdahl, Norwegian University of Science and Technology, Norway

Robert Dow, Newcastle University, United Kingdom

Sören Ehlers, Technical University of Hamburg-Harburg, Germany

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Kristjan Tabri, Tallinn University of Technology, Estonia

Nikolaos P. Ventikos, National Technical University of Athens, Greece

Richard Villavicencio, Lloyd's Register EMEA, The Netherlands

Local Organising Committee

Carlos Guedes Soares, IST, Universidade de Lisboa, Portugal

Yordan Garbatov, IST, Universidade de Lisboa, Portugal

Ângelo Teixeira, IST, Universidade de Lisboa, Portugal

José Gordo, IST, Universidade de Lisboa, Portugal

Tiago A. Santos, IST, Universidade de Lisboa, Portugal

Conference Secretariat

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Sandra Ponce, IST, Universidade de Lisboa, Portugal

Bárbara Azevedo, IST, Universidade de Lisboa, Portugal

Bruna Covelas, IST, Universidade de Lisboa, Portugal

Sónia Vicente, IST, Universidade de Lisboa, Portugal

SCHEDULE AT A GLANCE

| IST Congress Centre | |
|--|--|
| Monday, 21 October 2019 | Registration (Hall 01 – from 08h00 onwards) |
| <i>Auditorium (09h15-09h30)</i> | |
| Opening Session | |
| <i>Auditorium (09h30-10h30)</i> | |
| Plenary Session 1 | |
| <i>Coffee-break (10h30-11h00)</i> | |
| <i>Auditorium (11h00-12h30)</i> | |
| Plenary Session 2 | |
| <i>Lunch (12h30-14h00)</i> | |
| <i>02.1 (14h00-15h30)</i> Collision and Grounding - Cylindrical Members | <i>02.2 (14h00-15h30)</i> Traffic Modelling |
| <i>Coffee-break (15h30-16h00)</i> | |
| <i>02.1 (16h00-17h30)</i> Collision and Grounding - Indentation | <i>02.2 (16h00-17h30)</i> Traffic Modelling - Big Data |
| Tuesday, 22 October 2019 | Registration (Hall 01 – from 08h00 onwards) |
| <i>02.1 (09h00-10h30)</i> Collision and Grounding - Side and Bottom | <i>02.2 (09h00-10h30)</i> Traffic Modelling - Human Factors |
| <i>Coffee-break (10h30-11h00)</i> | |
| <i>02.1 (11h00-12h30)</i> Related Problems - Analysis of Experiments | <i>02.2 (11h00-12h30)</i> Traffic Modelling - Pollution |
| <i>Lunch (12h30-14h00)</i> | |
| <i>02.1 (14h00-15h30)</i> Related Problems - Fluid-Structure Interaction | <i>02.2 (14h00-15h30)</i> Related Problems - Composites |
| <i>Coffee-break (15h30-16h00)</i> | |
| <i>02.1 (16h00-17h00)</i> Related Problems - Hull Girder | <i>02.2 (16h00-17h00)</i> Related Problems - Crashworthiness |
| 20h00 – Conference Dinner | |
| Wednesday, 23 October 2019 | Registration (Hall 01 – from 08h00 onwards) |
| <i>02.1 (09h00-10h30)</i> Related Problems - Material Properties | <i>02.2 (09h00-10h30)</i> Related Problems - Operational Aspects |
| <i>Coffee-break (10h30-11h00)</i> | |
| <i>02.1 (11h00-12h30)</i> Related Problems - Behaviour of Plates | <i>02.2 (11h00-12h30)</i> Related Problems - Ice Impact |
| <i>Lunch (12h30-14h00)</i> | |
| Visit to Maritime Museum | |
| End of ICCGS 2019 Conference | |

SESSIONS IN ALPHABETICAL ORDER

Collision and Grounding – Cylindrical Members

Monday, 21/10/2019, 14h00, Room 02.1

Collision and Grounding – Indentation

Monday, 21/10/2019, 16h00, Room 02.1

Collision and Grounding – Side and Bottom

Tuesday, 22/10/2019, 09h00, Room 02.1

Opening Session

Monday, 21/10/2019, 09h15, Auditorium

Plenary Session 1

Monday, 21/10/2019, 09h30, Auditorium

Plenary Session 2

Monday, 21/10/2019, 11h00, Auditorium

Related Problems – Analysis of Experiments

Tuesday, 22/10/2019, 11h00, Room 02.1

Related Problems – Hull Girder

Tuesday, 22/10/2019, 16h00, Room 02.1

Related Problems – Behaviour of Plates

Wednesday, 23/10/2019, 11h00, Room 02.1

Related Problems – Composites

Tuesday, 22/10/2019, 14h00, Room 02.2

Related Problems – Fluid-Structure Interaction

Tuesday, 22/10/2019, 14h00, Room 02.1

Related Problems – Ice Impact

Wednesday, 23/10/2019, 11h00, Room 02.2

Related Problems – Material Properties

Wednesday, 23/10/2019, 09h00, Room 02.1

Related Problems – Operational Aspects

Wednesday, 23/10/2019, 09h00, Room 02.2

Related Problems – Crashworthiness

Tuesday, 22/10/2019, 16h00, Room 02.2

Traffic Modelling

Monday, 21/10/2019, 14h00, Room 02.2

Traffic Modelling – Big Data

Monday, 21/10/2019, 16h00, Room 02.2

Traffic Modelling – Human Factors

Tuesday, 22/10/2019, 09h00, Room 02.2

Traffic Modelling – Pollution

Tuesday, 22/10/2019, 11h00, Room 02.2

| Monday, 21 October 2019 | | Registration (Hall 01 – from 08h00 onwards) | |
|--|--|--|--|
| Opening Session (09h15-09h30) - Auditorium | | | |
| Plenary Session 1 (09h30-10h30) – Auditorium Chaired by: C. Guedes Soares Ship collision damages: Case studies S. Zhang, P. Terndrup Pedersen & R. Villavicencio Assessment of raking damage from decelerations measured during a grounding incident (ORAL PRESENTATION) E.C. van Kempen, A.W. Vredevelde & M.G. Hoogeland | | | |
| Coffee-break (10h30-11h00) | | | |
| Plenary Session 2 (11h00-12h30) – Auditorium Chaired by: C. Guedes Soares An intelligent method for real-time ship collision risk assessment and visualization L. Du, O.A. Valdez Banda & P. Kujala Semi-dynamic ship domain in the encounter situation of two vessels M. Gil, J. Montewka, P. Krata, T. Hinz & S. Hirdaris A comparison of two definitions of ship domain for analysing near ship-ship collisions A. Hörteborn, J.W. Ringsberg & M. Svanberg | | | |
| Lunch (12h30-14h00) | | | |
| 02.1 (14h00-15h30) Collision and Grounding – Cylindrical Members Chaired by: Preben T. Pedersen | | 02.2 (14h00-15h30) Traffic Modelling Chaired by: Pentti Kujala | |
| Fracture response of tubular T-joints under dynamic mass impact Q.T. Do, D.N.C. Le, B.S. Seo, H.K. Shin & S.-R. Cho Numerical crashworthiness analysis of a spar floating offshore wind turbine impacted by a ship S. Echeverry, L. Márquez, Ph. Rigo & H. Le Sourné Experimental and numerical research on the behavior of offshore tubular member under lateral indentation Y. Rong, H. Yuan, J.X. Liu, W.G. Liu, W. Luo & Z.Q. Hu | | Research on change of traffic safety accompanying the implementation of a new recommended route H. Itoh & R. Miyake Quantifying the grounding probability in narrow waterways S. Özlem, Y.C. Altan, E.N. Otay & I. Or Decision-making model for navigation strategy of intelligent ships H.B. Tian, B. Wu, C.C. Ting & J.H. Zhang | |
| Coffee-break (15h30-16h00) | | | |
| 02.1 (16h00-17h30) Collision and Grounding – Indentation Chaired by: Sang-Rai Cho | | 02.2 (16h00-17h30) Traffic Modelling – Big Data Chaired by: Jakub Montewka | |
| Analysis of the resistance to penetration of aluminium-alloy plates B. Liu, A. Dong, L. Chen, K. Liu & C. Guedes Soares Verification of crashworthiness of highly ductile steel by large-scale model tests T. Okawa, K. Ichikawa, H. Shimanuki, S. Nakamura, N. Oda & Y. Yamada Dynamic response of hat-stiffened panels subjected to hemisphere indenter impacts Y. Sha, J. Amdahl & K. Liu | | Assessment of ship encounter and collision in congested sea areas S. Kawashima & H. Itoh Spatial challenges of maritime risk analysis using big data A. Rawson, Z. Sabeur & G. Correndo Collision probability assessment based on uncertainty prediction of ship trajectories H. Rong, A.P. Teixeira & C. Guedes Soares | |
| 17h30 - Welcome Reception | | | |

| Tuesday, 22 October 2019 | | Registration (Hall 01 – from 08h00 onwards) | |
|---|--|--|--|
| 02.1 (09h00-10h30) Collision and Grounding – Side and Bottom Chaired by: Jørgen Amdahl | | 02.2 (09h00-10h30) Traffic Modelling – Human Factors Chaired by: Ângelo P. Teixeira | |
| Numerical investigation on the influence of stiffeners on the crushing resistance of web girders in ship grounding B.Q. Chen & C. Guedes Soares Numerical analysis of ship collisions accounting for bow and side deformation interaction B. Liu, G. Wang, L. Chen, X.T. Liao & C. Guedes Soares Structural response analysis of ship side structure in oblique collision scenarios Z. Wang, Z. Hu & G. Chen | | Analysing human factors for naval navigation accidents using HFACS V.P. da Conceição, A.C. Canas & J. Dahlman Human contribution to safety of smart ships J. Hüffmeier & S. Bram A novel collision risk awareness framework for ships in real-time operating conditions X.L. Yuan, D. Zhang, J.F. Zhang, M.Y. Zhang & C. Guedes Soares | |
| Coffee-break (10h30-11h00) | | | |
| 02.1 (11h00-12h30) Related Problems – Analysis of Experiments Chaired by: Richard Villavicencio | | 02.2 (11h00-12h30) Traffic Modelling – Pollution Chaired by: Hiroko Itoh | |
| Experimental study on the dynamic response of a beam under repeated impacts X. He & C. Guedes Soares Numerical study on the structural behavior of intact and damaged box beams under four-point bending load T. Putranto & M. Kõrgesaar ASIS web girder test: A miniature experiment M.A.G. Calle, P. Kujala, M. Salmi & L.M. Mazzariol | | Event risk classification method for Pollution Preparedness and Response V. Laine, O.A. Valdez Banda & F. Goerlandt A simulation model to support planning of resources to combat oil spills at sea J. Mazurek, J. Montewka & L. Smolarek Risk analysis of ship collision considering striking ship velocity and plate ductility Y. Yamada, H. Ochi & K. Ichikawa | |
| Lunch (12h30-14h00) | | | |
| 02.1 (14h00-15h30) Related Problems – Fluid-Structure Interaction Chaired by: Hervé Le Sourne | | 02.2 (14h00-15h30) Related Problems – Composites Chaired by: Yordan Garbatov | |
| Crashworthiness of LNG ship side structures considering the fluid-structures coupling (ORAL PRESENTATION) J.J. Zhang, L. Zhu, S.M. Zhang & L.J. Xu Advanced numerical technique of ship collision considering fluid effect J. Choung, K. Lee & B. Park Simplified modelling of surface ship whipping response to underwater explosion R. Trivedi, H. Le Sourne, S. Paroissien, S. Branchereau & C. Lucas | | Study on slamming of the foam core carbon fibre V-shaped plate frame Z. Qin, T. Zhang, L. Zhang & Z. Chen ALE and finite element investigation of water impact on composite panels N. Silva, S. Wang & C. Guedes Soares Optimization design of composite reinforced pressure-resistant cylindrical shell based on ISIGHT A.H. Zheng, T. Zhang, L. Zhang & C. Zhao | |
| Coffee-break (15h30-16h00) | | | |
| 02.1 (16h00-17h00) Related Problems – Hull girder Chaired by: Yasuhira Yamada | | 02.2 (16h00-17h00) Related Problems – Crashworthiness Chaired by: Joonmo Choung | |
| Average stress-strain behaviour of stiffened plates of a box girder in the progressive collapse analysis M. Tekgoz, Y. Garbatov & C. Guedes Soares | | Numerical study on crashworthiness of sandwich structures under impact loads J. Pan, Y.F. Huang, M.C. Xu & C.Y. Zhou | |

| | |
|--|--|
| <p><i>02.1 (16h00-17h00)</i></p> <p>Related Problems – Hull girder</p> <p><i>Chaired by: Yasuhira Yamada</i></p> | <p><i>02.2 (16h00-17h00)</i></p> <p>Related Problems – Crashworthiness</p> <p><i>Chaired by: Joonmo Choung</i></p> |
| <p>....</p> <p>Bending response of a damaged ship hull girder predicted by the cyclic progressive collapse method</p> <p><i>S. Li, Z.Q. Hu & S.D. Benson</i></p> | <p>....</p> <p>Numerical investigation of the ballistic impact on SiC ceramic/UHMWPE composite armor (ORAL PRESENTATION)</p> <p><i>H.F. Yang, Y.S Cheng, J. Liu & P. Zhang</i></p> |
| <p>20h00 – Conference Dinner</p> | |

| Wednesday, 23 October 2019 | | Registration (Hall 01 – from 08h00 onwards) | |
|---|---|--|--|
| <p><i>02.1 (09h00-10h30)</i></p> <p>Related Problems – Material Properties</p> <p><i>Chaired by: Alex W. Vredeveldt</i></p> | <p><i>02.2 (09h00-10h30)</i></p> <p>Related Problems – Operational Aspects</p> <p><i>Chaired by: Serge Sutulo</i></p> | | |
| <p>High ductility steels for impact resistance: Experimental results</p> <p><i>B. Atli-Veltin, O.J. Coppejans, M.G. Hoogeland & J.W. van Bergen</i></p> <p>Numerical stress-strain analysis of butt-welded plates during the welding process</p> <p><i>M. Hashemzadeh, Y. Garbatov & C. Guedes Soares</i></p> <p>Accuracy of material models for the dynamic behavior of K-joints under impact loads</p> <p><i>Y. Lu, K. Liu, Z. Wang & W. Tang</i></p> | <p>A proposed life-safety and environmental/ socioeconomic class framework for Arctic shipping (ORAL PRESENTATION)</p> <p><i>R.S. Taylor, T. Browne, B. Veitch & P. Kujala</i></p> <p>Bayesian approach to ship speed prediction based on operational data</p> <p><i>P. Krata, R. Vettor & C. Guedes Soares</i></p> <p>Time-varying vector field guidance law for path following and obstacle avoidance for underactuated autonomous vehicles</p> <p><i>H.T. Xu, M.A. Hinostroza & C. Guedes Soares</i></p> | | |
| Coffee-break (10h30-11h00) | | | |
| <p><i>02.1 (11h00-12h30)</i></p> <p>Related Problems – Behaviour of Plates</p> <p><i>Chaired by: Shengming Zhang</i></p> | <p><i>02.2 (11h00-12h30)</i></p> <p>Related Problems – Ice Impact</p> <p><i>Chaired by: Ling Zhu</i></p> | | |
| <p>Residual strength of stiffened plates having multiple denting damages</p> <p><i>S.-H. Park, E. Kang, S.-R. Cho, Y.-S. Jang, N.-K. Baek & D.-K. Park</i></p> <p>Scaling the saturated impulse behaviour of strain-rate sensitive square plates</p> <p><i>X. He, C. Guedes Soares & L. Zhu</i></p> <p>Ultimate strength assessment of square plate subjected to uni-axial dynamic load</p> <p><i>M. Tekgoz, Y. Garbatov & C. Guedes Soares</i></p> | <p>Very efficient ship-to-ice interaction simulations using user-subroutine of a commercial finite element code</p> <p><i>D. Han, J. Choung, K.-J. Paik & H.S. Kim</i></p> <p>Ramming induced ice loads between the ship bow and multiyear thick ice in Antarctic Weddell Sea</p> <p><i>L. Lu, P. Kujala, O.A. Valdez Banda & F. Goerlandt</i></p> <p>Evaluation of load-carrying capacity of a submersible platform subjected to accidental ice impacts</p> <p><i>Z. Yu, J. Amdahl & S. Løset</i></p> | | |
| Lunch (12h30-14h00) | | | |
| 14h30 - Visit to Maritime Museum | | | |
| End of ICCGS 2019 Conference | | | |

ACCOMPANYING PERSONS' PROGRAMME

In parallel to the technical sessions for the Conference participants, ICCGS 2019 offer an Accompanying Persons Programme that includes all the social events of the Conference, namely, Welcome Reception and Conference Dinner, as well as a 2-days hop-on hop-off City Tour of Lisbon. Your ticket will be valid for 48 hours starting from your first trip.

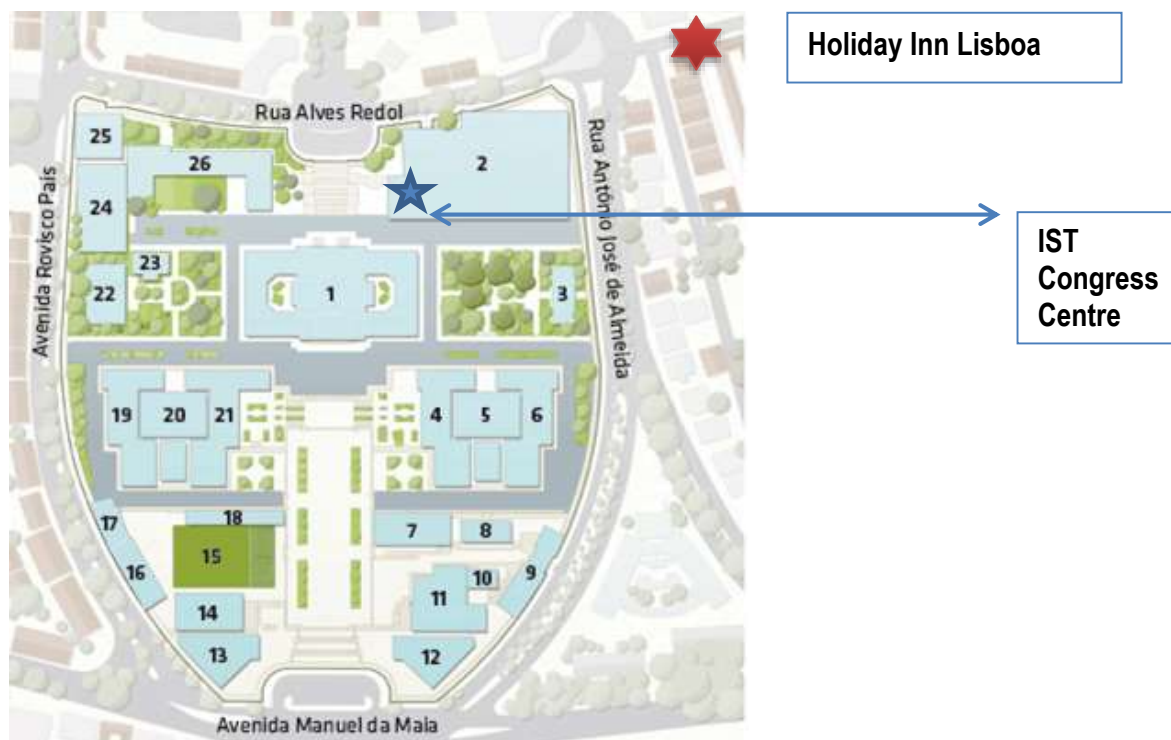
Details of this package are available separately.

| Time | Monday, 21st | Tuesday, 22nd | Wednesday, 23rd |
|---------------|---------------------|---------------------|-----------------|
| 09h00 | City Tour of Lisbon | City Tour of Lisbon | |
| 09h30 | | | |
| 10h00 | | | |
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| 16h00 | | | |
| 16h30 | | | |
| 17h00 | | | |
| 17h30 | Welcome Reception | | |
| 18h00 | | | |
| 18h30 | | | |
| 19h00 | | | |
| 19h30 | | Conference Dinner | |
| 20h00 onwards | | | |

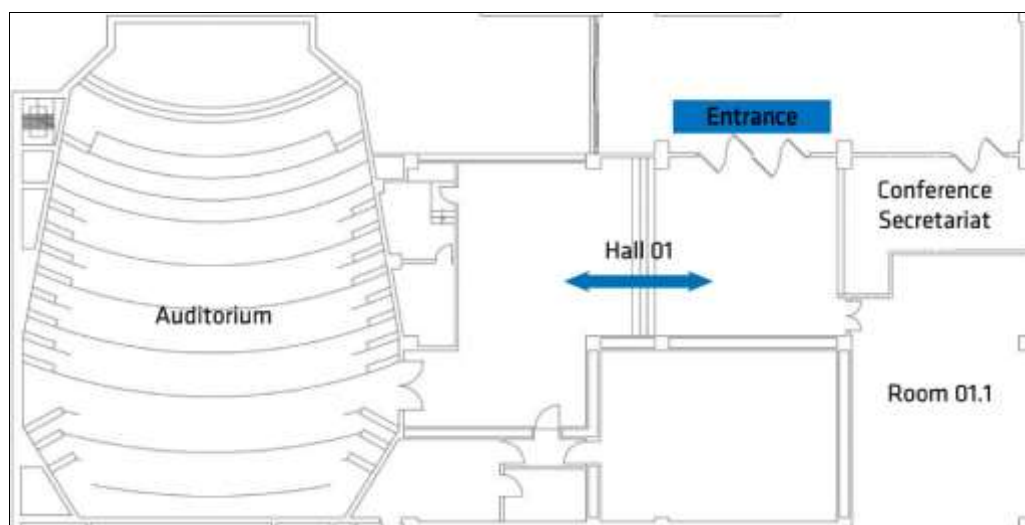
CONFERENCE VENUE

The 8th International Conference on Collision and Grounding of Ships and Offshore Structures (ICCGS 2019) will be held at the Instituto Superior Técnico's Congress Centre at the Alameda Campus.

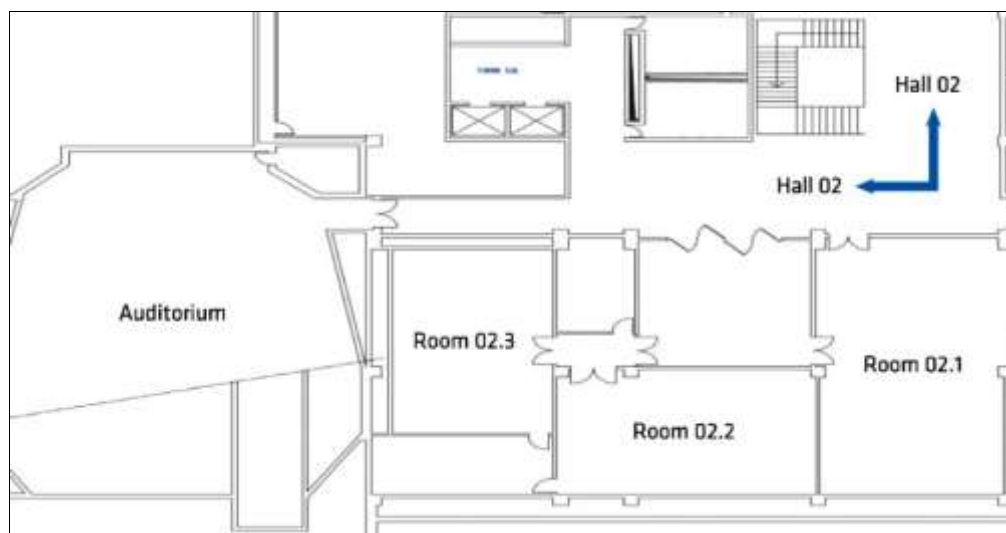
The MAP below shows the location of the IST's Congress Centre in the Campus, and the location of the Hotel Holiday Inn Lisboa where lunches will be served.



ICCGS 2019 will take place at **IST's Congress Centre** ★ located on the Lower Ground 1 and Lower Ground 2 Levels, and will be concentrated in the Auditorium (Monday morning) and meeting rooms 02.1 and 02.2 for the parallel sessions.



Lower Ground 1



Lower Ground 2

During the 3 days of the Conference, the lunches will be served at the **Vasco da Gama Restaurant** in the **Hotel Holiday Inn Lisboa**  very close to IST, as shown above.



IMPORTANT CONTACTS

| Congress Location | CENTEC | Congress Dinner |
|---|---|---|
| IST Congress Centre Instituto Superior Técnico Universidade de Lisboa Avenida Rovisco Pais, Lisboa 1049-001 Tel.: +351 218 418 069 | Centre for Marine Technology and Ocean Engineering (CENTEC) Instituto Superior Técnico Universidade de Lisboa Avenida Rovisco Pais Lisboa 1049-001 Tel.: +351 218 417 468 | Restaurant at “Ordem dos Engenheiros” Av. António Augusto de Aguiar, n.º 3-D 1069-030 Lisboa Tel.: 213 132 600 |
| WiFi Access: ☞ Username: ICCGS2019 ☞ Password: JZLRxD | | Emergency Number: 112 |

NOTES

