



**DR LUIS GUARIN**

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Dr Luis Guarin (AMRINA, MScEng, PhD) is a Partner in Brookes Bell and Director of safety engineering at Safety at Sea Ltd (a Brookes Bell Group company).

He graduated with an MScEng degree in ship structural ship design from the Technical University of Gdansk. He then joined the University of Strathclyde, where he worked in ship stability research, studied for a PhD in naval architecture and worked as a post-graduate research fellow at the Ship Stability Research Centre. During that time, he was responsible for conceiving, carrying out, reporting and promoting research on risk-based ship design and operations.

He joined Safety at Sea Ltd in 2002 after receiving his PhD and since then has been working as a naval architect consultant. He specialises in ship safety assurance and technical risk analysis of ship newbuilding and conversion projects of passenger ships, special purpose offshore vessels. Areas of focus include alternative design, fire safety, access/egress, escape, evacuation and LSA arrangements and redundancy of essential ship systems. He has experience of conducting risk assessments of marine and port operations and he has been involved in Formal Safety Assessment (FSA) studies in the context of National and International (IMO) safety legislation development. He has worked as an expert consultant to the International Maritime Organisation on FSA initiatives for safety of passenger ships.

**EDUCATION AND QUALIFICATIONS**

June 2002      PhD Naval Architecture: Seakeeping in extreme sea states.  
*Department of Naval Architecture & Marine Engineering,  
Universities of Glasgow & Strathclyde, UK.*

**Overseas Research Student (ORS) Award 1999-2002.**

October 1997      MScEng in Naval Architecture: Structural design and verification  
of bulk carriers.  
*Technical University of Gdansk, Poland.*

**EXPERIENCE**

2011 - Present      **BrookesBell LLP, UK**

**Partner (seconded to Safety at Sea Ltd, part of the Brookes Bell  
Group following merger in 2011)**

2010 - Present      **Brookes Bell Safety at Sea Limited, Glasgow, UK**

**Director (2010 – present)**

Responsible for the running of the company as part of the board  
of directors.

Responsible for projects involving “safe return to port”,  
evacuation arrangements, “alternative design & arrangements”  
(fire safety, LSA, among others) and general ship design risk  
analysis (facilitation of HAZID meetings and development of  
design risk register). Involvement mainly with passenger and  
special purpose ships (SPS).

Principal consultant for Formal Safety Assessments, Safety Case  
development and safety studies including Fire Explosion Risk  
Analysis (FERA) and Escape Evacuation Rescue Analysis (EERA)  
for a range of Mobile Offshore Units (MODU and MOU) and  
offshore construction vessels.

Leader of product development for in-house software Evi (escape  
and evacuation simulation tool), software for ship systems  
reliability/vulnerability analysis and software for crew emergency  
management on board.

Advisor to port designers and operators on safety matters (port  
safety and security, navigational risk, fendering, rescue  
arrangements).

Overseeing R&D project on development and validation of  
advanced evacuation analysis tools (EC FP7 project  
SAFEGUARD).

- 2007 - 2010      **Project Manager & Principal Consultant (2007-10)**
- Responsible for formal safety and risk assessment studies on bulk carriers (structural integrity, green water in rough weather, hatch cover design standards, single side skin vs. double side skin bulk carriers' design, corrosion margins), operation of ships in Polar Regions, air and oil pollution from ships, navigation in restricted waters and safety of ro-ro passenger ships, among others.
- Extensive participation in safety validation of some of the most innovative features of MV Oasis of the Seas.
- Responsible for undertaking escape and evacuation analysis for over 30 passenger vessels including cruise and ro-ro passenger ferries. Overseeing R&D projects on capability building in fire engineering analysis (Knowledge Transfer Partnership program with University of Strathclyde).
- 2004 - 2007      **Department of Naval Architecture & Marine Engineering, Universities of Glasgow and Strathclyde, UK (seconded from Safety at Sea)**
- Post-Doctoral Research Fellow.**
- EU FP6 Research Program SAFEDOR – safety in design, operations and regulations. Instrumental in writing the technical proposal on behalf of the University of Strathclyde; Work Package leader and responsible for WP5.1 (risk-based design framework) and deputy representative in the project's steering committee.
- 2002 - 2004      **Safety at Sea Limited, Glasgow, UK**
- Marie-Curie Host Fellowship, in collaboration with the Ship Stability Research Centre (academic host). Fire risk assessment. Development of fire engineering and escape analysis to support the validation of alternative design arrangements of passenger ships.
- 1998 - 2002      **Department of Naval Architecture & Marine Engineering, Universities of Glasgow and Strathclyde, UK**
- Research Assistant**
- Undertook extensive research on seaworthiness of bulk carriers in extreme weather conditions. This involved numerical seakeeping analysis and physical model testing in the UK (Denny Tank, Dumbarton), Netherlands (MARIN in Wageningen) and China (CSSRC in Wuxi).
- Damage stability analysis and model testing – Stockholm Agreement upgrading of passenger ferries.

**PUBLICATIONS**

1. Guarin L., (2011), "Review of casualty data of ships operating in Polar Waters", paper submitted to IMO as DE 56/INF.9.
2. Guarin L (2009) "Preliminary risk assessment of passenger ships operating in Antarctic waters", paper submitted to IMO as DE 54/INF.2.
3. Guarin L, Miinala M (2008): "Casualty threshold and safe return to port in line with the IMO safety framework for passenger ships", RoRo 2008 Conference, Gothenburg, May 2008.
4. Guarin L, Konovessis D., Mermiris G, (2007), "Formal Safety Assessment of Ropax vessels", SAFEDOR project deliverables. Presented to IMO FSA Group of Experts on behalf of the Danish Maritime Administration.
5. Guarin L, Majumder J, Vassalos D (2007): "Design for Fire Safety", Design for Safety Conference, San Francisco, September 2007.
6. Guarin L, Vassalos D (2007): "Risk Assessment of Pollution due to Shipping Accidents in the North West of Scotland", 2nd International Maritime-Port Technology and Development Conference (MTEC 2007) 26-28 September 2007, Singapore.
7. Majumder J, Guarin L, et al (2007): "Simulation based Planning of Ferry terminal Operations", COMPIT 2007.
8. Vassalos D, Jasionowski A, Guarin L (2007): "Design for Damage Survivability of Passenger Ships", RINA Design of Passenger Ships Conference, London, April 2007.
9. Vassalos D, Guarin L, et al (2003): "Advanced Evacuation Analysis – Testing the Ground on Ships". Paper presented at Pedestrian Dynamics 2 Conference, Greenwich, 2003.
10. Konovessis D, Guarin L, Vassalos D (2002): "Elements of an Integrated Risk-Based Design Methodology". Paper presented at Learning From Marine Incidents II – International RINA Conference, March 2002.
11. Guarin L, Jasionowski A, Vassalos D (2001): "Numerical simulations of the sinking of the MV Derbyshire", Singapore, October 2001.
12. Vassalos D, Guarin L, Jasionowski A, Zheng Y: "Structural Reliability of Hatch Covers for Bulk Carriers", Journal of Marine Structures.
13. Guarin L and Vassalos D (2001): "A Probabilistic Model of Deck Wetness and Green Seas Loading on the Hatch Covers of Bulk Carriers in Extreme Weather Conditions". Paper presented at Design for Abnormal Conditions II – International Conference, RINA, 6-7 November 2001, London, UK.
14. Vassalos D, Guarin L and Jasionowski A (2000): "Seakeeping and Seaworthiness of Bulk Carriers in Extreme Conditions". Paper presented at OC 2000 Conference, October 2000, Osaka, Japan.
15. Vassalos D, Guarin L and Milne S (2000): "Results of the UK Bulk Carriers Seakeeping Model testing Programme". Paper presented at RINA London Branch, 13 April 2000. Paper submitted to IMO MSC 70-INF.