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Western Joint Branch

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Technical Lecture

Genetic Algorithms for Ship General Arrangements

Bojan Igrec, University College London (UCL)



Date: Monday 18/11/2019

Time: Refreshments at 19:00, start at 19:25

Venue: Lecture Theatre 2.3, Building 5 West, University of Bath, BA2 7AY

Organiser: Western Joint Branch

Contact: secretary.wjb@imarest.org

Summary: Recent advancements in computers and computer science have enabled the ability to rapidly generate a great number of low-detail ship design concepts. This talk will discuss how to utilise genetic algorithms to semi-automatically generate general arrangements of ships and how to incorporate such tools into the current design methods. It will discuss some of the potential benefits genetic algorithms may bring to naval architects during the early stages of ship design and will also identify current challenges and limitations. The talk will cover the current research project carried out at UCL Mechanical Engineering in collaboration with the University of Southampton and BMT whose overarching aim is the development of highly interactive layout exploration and optimisation method for generating ships general arrangements. The method utilises a genetic algorithm-based optimisation tool to rapidly generate and evaluate a diverse set of options. The results from four single-deck ships and a five-deck Offshore Patrol Vessel test cases will be presented.

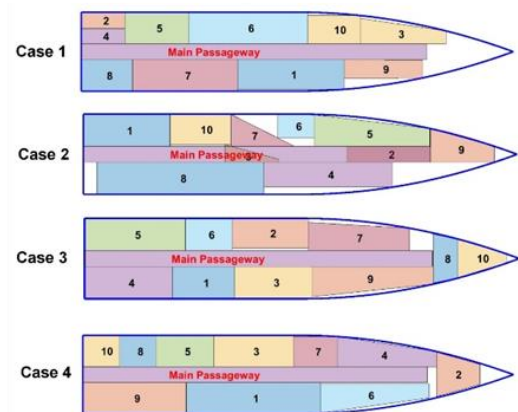


Image: Credit to Bojan Igrec

Speaker: Bojan Igrec, University College London (UCL)

Bojan Igrec is a PhD student at UCL. He is a graduate in Mechanical Engineering from the University of Zagreb. After graduation he worked at Faculty of Electrical Engineering and Computing of University of Zagreb as a research assistant. He joined UCL in the summer of 2017, and his main area of interest is in the development of methods and tools for computer aided layout generation within ship design, particularly during the preliminary stages.



Continuing Professional Development: Certificate of attendance

Attendee

Signed: _____

Name: _____

Committee endorsement

Signed: _____

Position: _____

Next event: Design Challenge

Date: Mon 02/12/2019, **Time:** Refreshments at 19:00, start at 19:25

Venue: Lecture Theatre 1N05, Building N, University of the West of England, BS16 1QY

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