

# The UCL Design Research Centre (DRC)

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<http://www.mecheng.ucl.ac.uk>

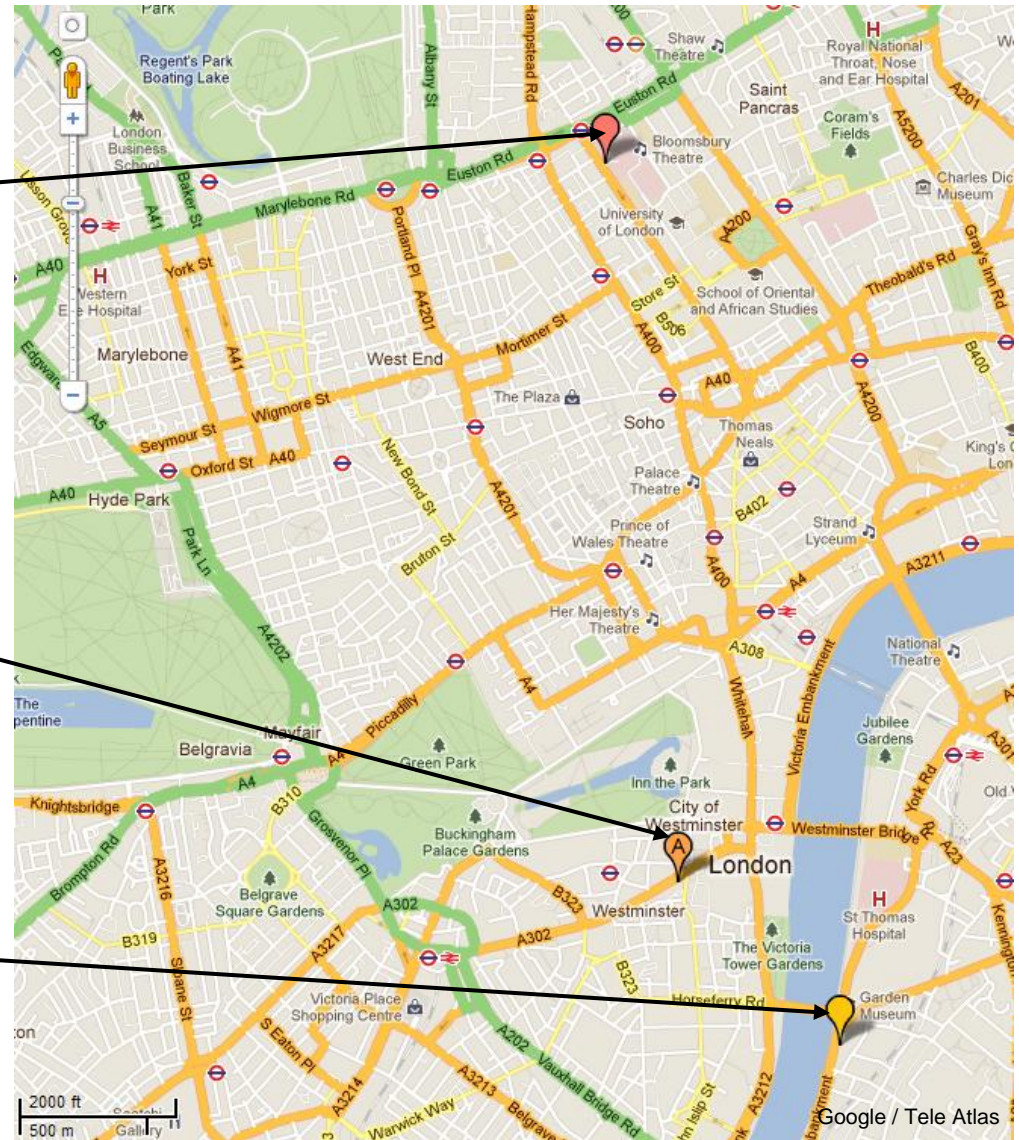
[/research/marine-systems/design-research/](http://www.mecheng.ucl.ac.uk/research/marine-systems/design-research/)

# UCL: London's Global University

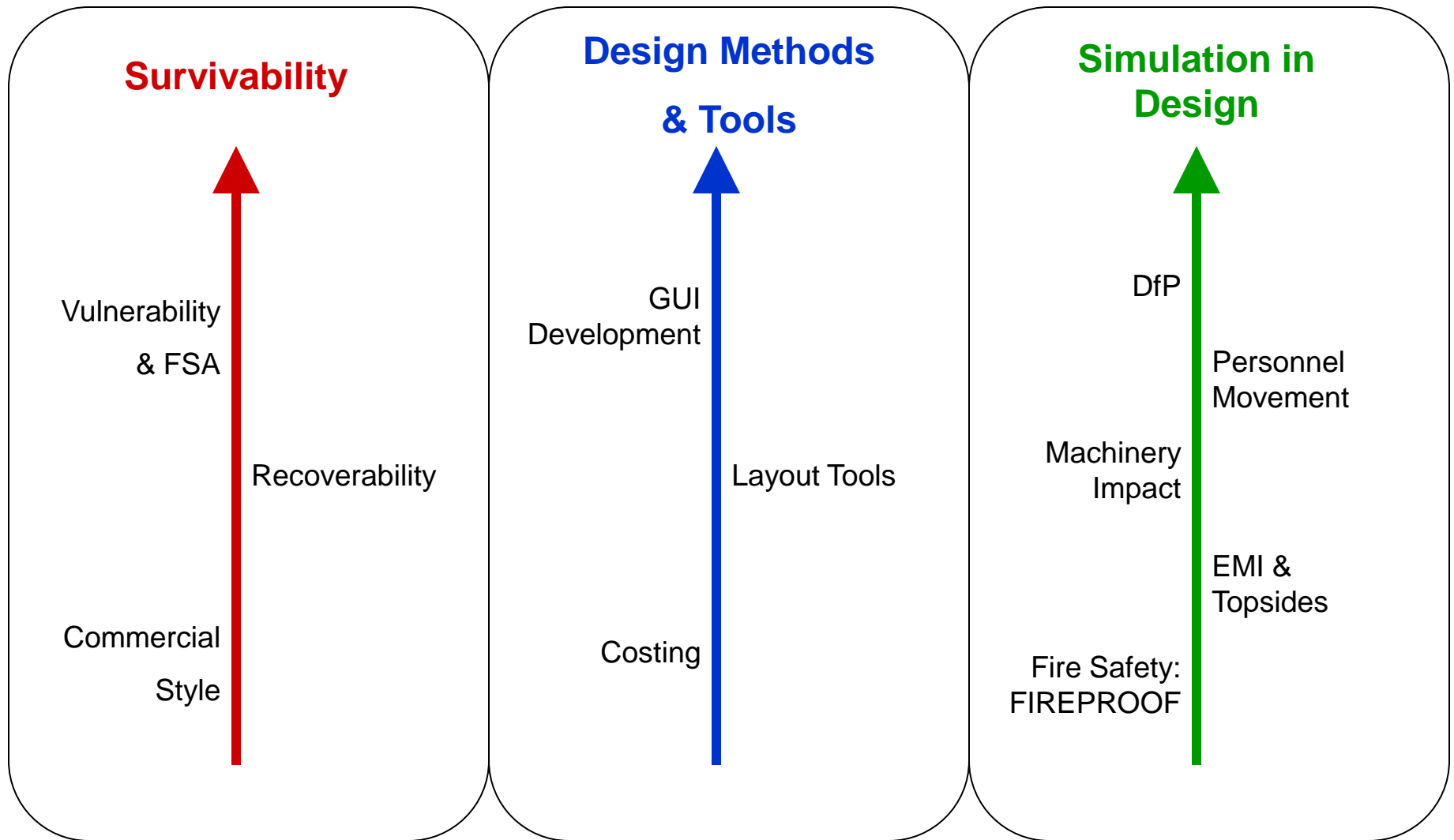
UCL main campus

1 Victoria Street

IMO

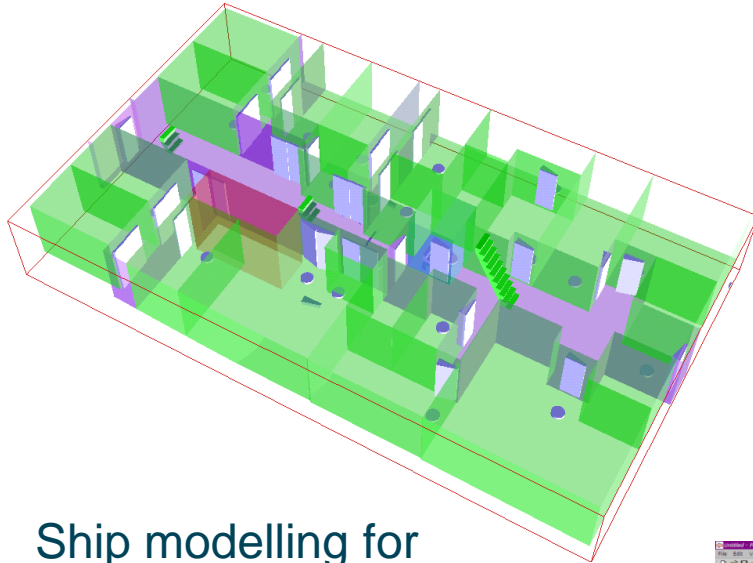


# DRC Research Areas

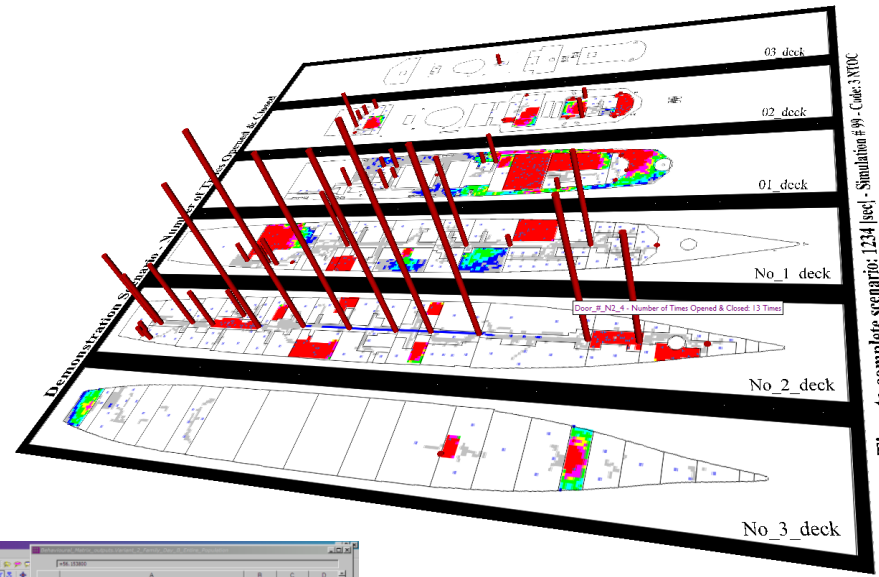


# EPSRC Project:

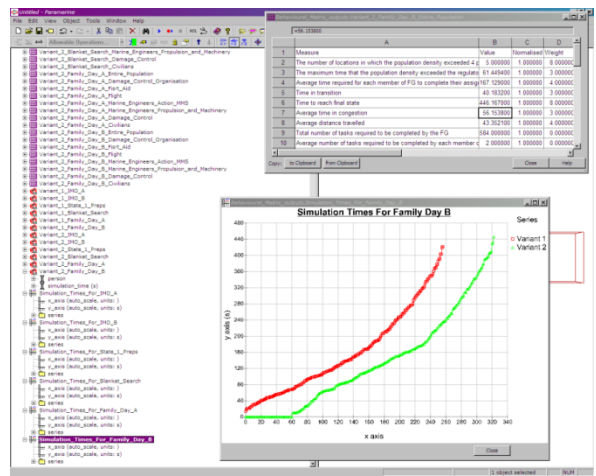
## “Guidance on the Design of Ships for Enhanced Escape & Operation”



Ship modelling for simulation



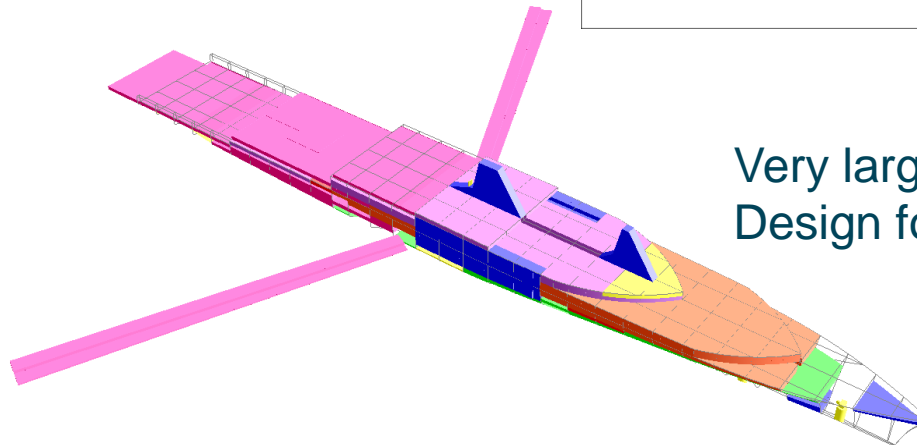
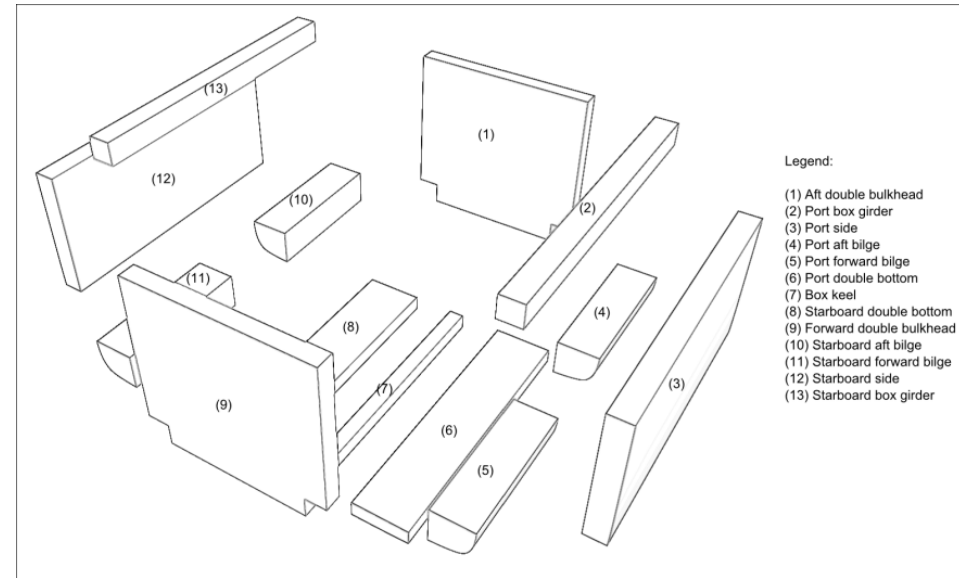
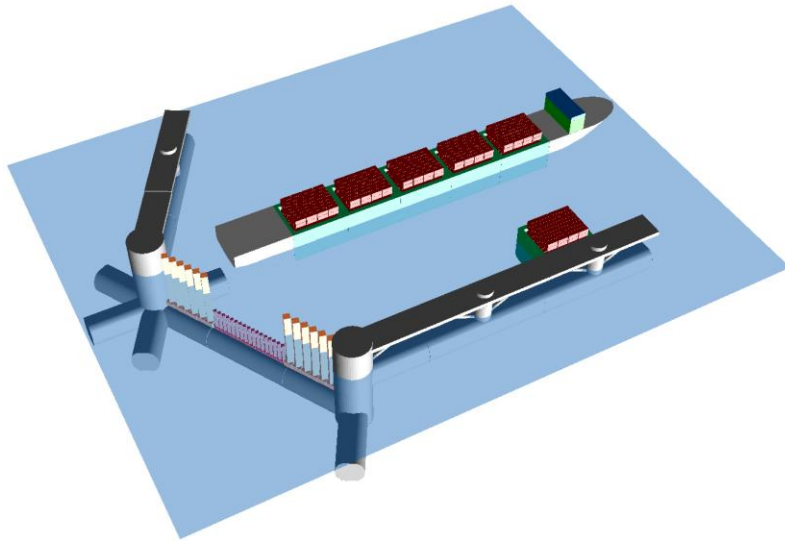
Time to complete scenario: 1214 | sec - Simulation # 99 - Code: 3 YTOC



Interface and visualisation development

# EU Maritime Visions: Assessment of Design Ideas

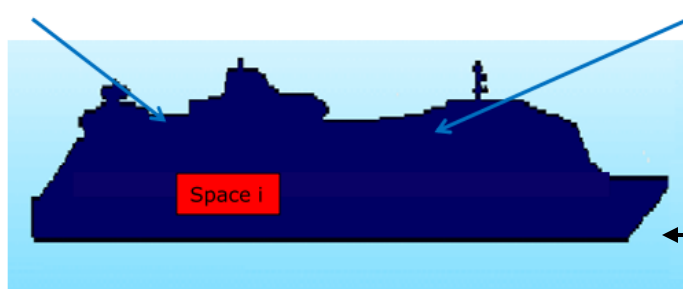
Transshipment hub for modular ships: Design for production



Very large cruise liner:  
Design for production

# FP7 Project: “FIREPROOF”

- Development of a Risk-based Design framework for onboard fire safety
- 13 organisations, 8 nations
- 3 years from June 2009



Fire specifics (i)  
Geometry (i)  
Topology (i)  
Conditions (i)  
i: SOLAS space category

UCL DRC involvement:

Ship product model

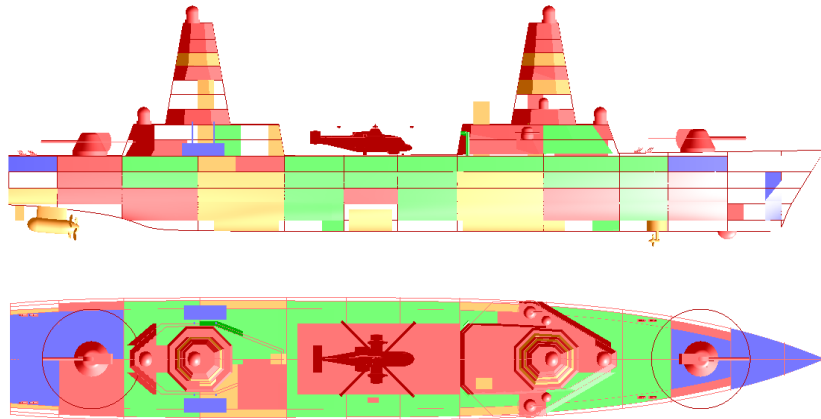
Risk metrics

Scenario Generation



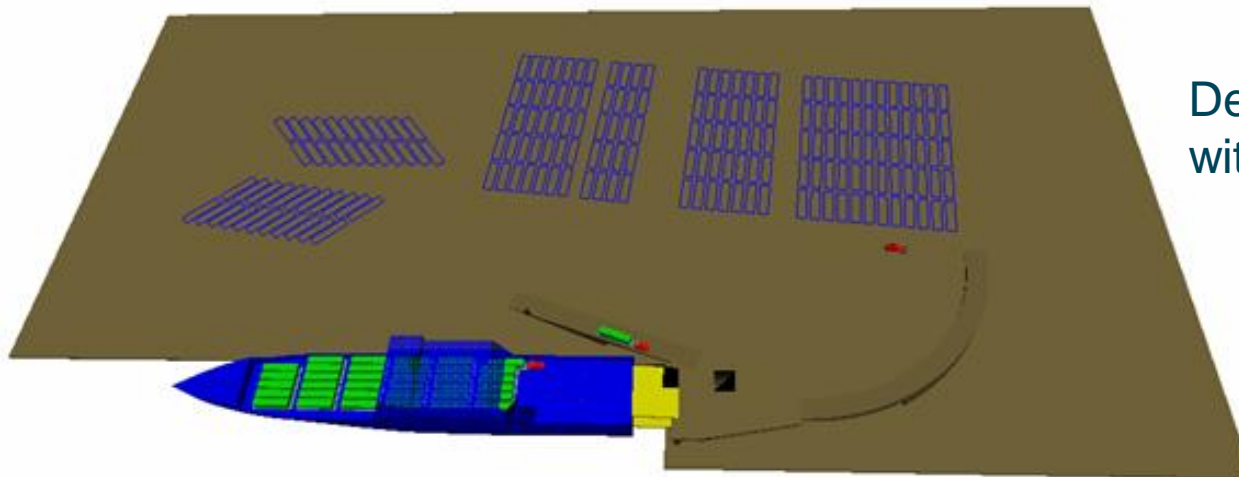
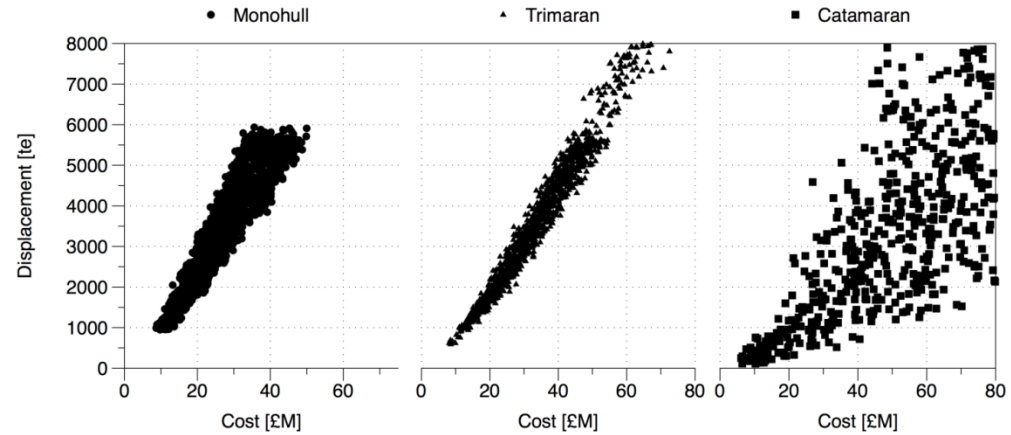
$$A = \sum p \times e$$

# Other Research



Design studies

## Design tools & methods



Design integration with simulation

# DRC Long Term Research Projects

- EPSRC: “Low Carbon Shipping: A Systems Approach”
  - Design development and analysis
- FP7: FIREPROOF
  - Design modelling and risk metrics
- EPSRC: “Guidance on the Design of Ships for Enhanced Escape and Operation”
  - Interface and visualisation development
- CASD (ONR NICOP- NAVSEA) with U Michigan + TU Delft
- Commercial style (BMT DSL – EPSRC CASE Studentship)
- Survivability (UK MoD Dstl - EPSRC CASE Studentship)
- Topside (UCL Impact Studentship - NDP)
- Propulsion innovation (EPSRC CASE Studentship)
- Submarine innovation (UCL Impact Studentship – Babcock)