



University of
Strathclyde
Glasgow

Strathclyde Marine Institute ,
Glasgow, UK
by
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**Ocean of Tomorrow: Joining
research forces to meet challenges
in ocean management**

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Aims of the Strathclyde Marine Institute

- **To foster and promote multi-disciplinary research and innovation in marine-related activities across the University.**
- **To provide a platform for cooperation and sharing available resources in order to address the marine and maritime sectors' requirements in terms of education, research, innovation, and knowledge exchange.**
- **To assist the development of a thriving maritime economy within an eco-system based approach.**



Discipline Areas within the Strathclyde Marine Institute

- Biology
- Chemical Engineering
- Civil Engineering
- Computer and Information Sciences
- Economics
- Electrical and Electronics Engineering
- History
- Law
- Materials and Manufacturing Engineering
- Mathematics & Statistics
- Mechanical Engineering
- Naval Architecture, Marine, Offshore and Subsea Engineering
- Physics
- Politics

Quantification of climate change impacts on economic sectors in the Arctic

- Monitoring and remote sensing of ice conditions to determine the ideal shipping routes.
- A techno-economic study to estimate the commercial viability of trans-arctic shipping taking into account vessel cost, ice conditions and sailing speed.
- An investigation to assess the risk to people on board ships and to the environment in case of accidents in the arctic



Vectors of changes in marine life, impact on economic sectors

Ballast Water Treatment Methods that have been / are being studied at the Institute through large scale testing at the Biological Field Station, Millport or onboard ships:

- Mechanical treatment methods such as filtration and separation.
- Physical treatment methods such as sterilisation by ozone, ultra-violet light, electric currents and heat treatment.
- Biological and chemical treatment methods such as adding biocides to ballast water to kill organisms.
- Various combinations of the above.



Sub-seabed carbon storage and the marine environment

Recent and current studies at Strathclyde relevant to this theme include:

- Mathematical modelling of subsurface fluid flow and pollutant transport
- The hydro-mechanical modelling of faults
- Development of a probabilistic model of the three-dimensional groundwater flow regime
- Mathematical modelling of hydraulic permeability evolution in the damage zone surrounding faults in the vicinity of a proposed radioactive waste repository



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Thank you !

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