

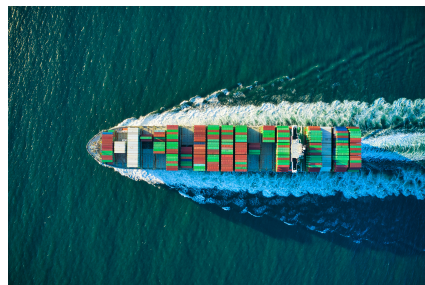
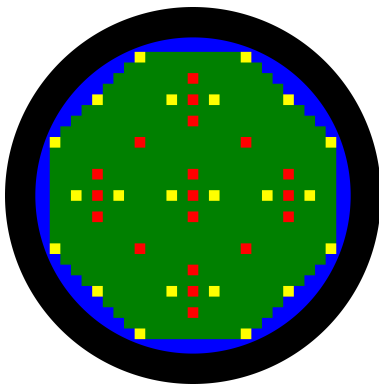
Nuclear propulsion, tying the world together, one split atom at a time.

A study into Nuclear powered vessels and the possibility of the nuclearization of world commercial shipping fleet.

The use of fossile fuels as an energy source in modern maritime trade is a driving factor in green house gas emissions. This study will evaluate fossile fuel use as a premise and the future of propulsion systems in modern maritime trade.

An important factor in the use of nuclear reactors for the purpose of propelling modern cargo ships, is intimate knowledge of nuclear reactor systems. This project will attempt a holistic approach to evaluating nuclear propulsion for the modern cargo fleet. This will include reactor simulations of known technologies, shielding evaluation, feasibility evaluation and evaluation of resource availability.

The main goal is a feasibility report on the potential refitting of traditional cargo ships with nuclear propulsion. This must be evaluated rigorously and source term analysis, criticality analysis and burnout analysis must be attempted.



Left: Model of a reactor core. Right: Cargo ship of size and relevance.

Practical information:

Supervisors:

Sunniva Siem, Ole Reistad,
Marius Torsvoll

Student background:

Physics and informatics.
Understanding and interest in
physics and programming is
paramount.

Preferred project period:

Six week duration beginning at
any time between April 1st and
September 15th, 2024

Expected deliverables:

A report summarizing key results
of reactor simulations, and
feasibility of refitting the modern
cargo fleet.