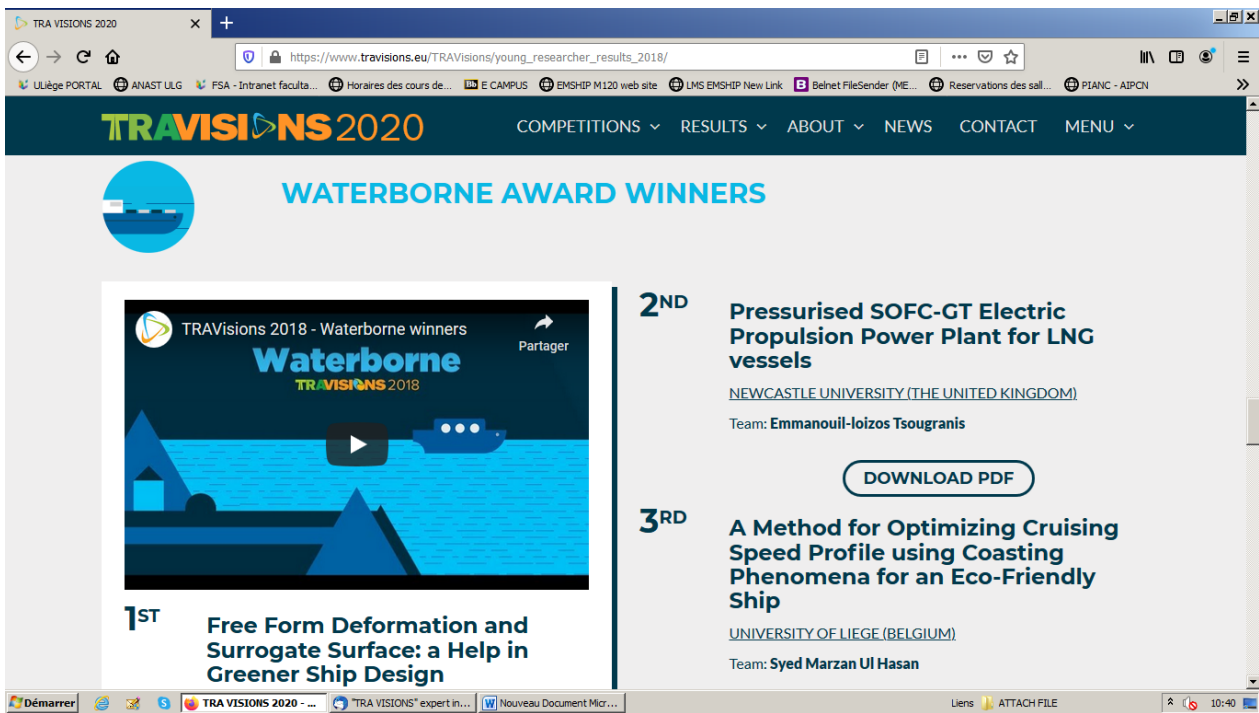


TRAVISION 2020 (2018) 1 Award and 3 EMSHIP Project short listed

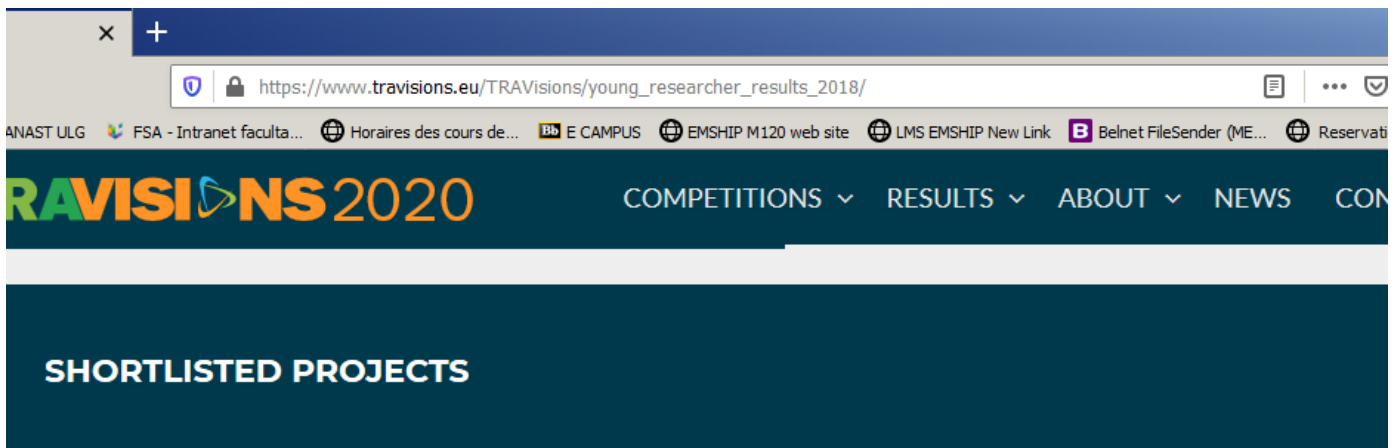
https://www.travisions.eu/TRAVisions/young_researcher_results_2018/



The screenshot shows the TRAVISIONS 2020 website with a navigation bar containing 'COMPETITIONS', 'RESULTS', 'ABOUT', 'NEWS', 'CONTACT', and 'MENU'. The main heading is 'WATERBORNE AWARD WINNERS'. Below this, there are three award entries:

- 1ST** **Free Form Deformation and Surrogate Surface: a Help in Greener Ship Design**
UNIVERSITY OF LIEGE (BELGIUM)
Team: Syed Marzan Ul Hasan
- 2ND** **Pressurised SOFC-GT Electric Propulsion Power Plant for LNG vessels**
NEWCASTLE UNIVERSITY (THE UNITED KINGDOM)
Team: Emmanouil-loizos Tsougranis
- 3RD** **A Method for Optimizing Cruising Speed Profile using Coasting Phenomena for an Eco-Friendly Ship**
UNIVERSITY OF LIEGE (BELGIUM)
Team: Syed Marzan Ul Hasan

A video player for the 1st prize is visible, with a 'Partager' button. A 'DOWNLOAD PDF' button is also present for the 2nd prize.



The screenshot shows the TRAVISIONS 2020 website with a navigation bar containing 'COMPETITIONS', 'RESULTS', 'ABOUT', 'NEWS', and 'CON'. The main heading is 'SHORTLISTED PROJECTS'.

- 4. Seaty**
Bayram Ozdogan, Stefan Scekcic
EMShip - University of Liège / École centrale de Nantes (Belgium)
- 5. Methanol Producing Auxiliary Tanker Concept Ship**
Jonathan Richards (team leader), Longxing WANG, Michael Brasted
EMShip - University of Liège / École centrale de Nantes (Belgium)
- 6. Numerical Simulation of Ship-Brash Ice Interaction**
Malith Prasanna Rupasingha Arachchige
Coventry University (The United Kingdom)
- 7. Emergency Braking System for Small Crafts**
Aaqib Khan, Thales Machado
University of Liege (Belgium)
- 8. Derive the force of a sail just from Images**
Duccio Ducci
University of Southampton (The United Kingdom)
- 9. Platform Based Ship Design**
Rasmus Brandenburg Bilde, Jarett Hunt
University College London (The United Kingdom)
- 10. Ceramic Thin Film Coated Marine Propellers**
Sabri ALKAN
Bartın University (Turkey)

3rd PRIZE

N. project: L1-94

category: **Waterborne**

Members: Syed Marzan Ul Hasan

University: University of Liege

RA3

Advanced Propulsion Systems

Key Characteristics: Motivated from rail and car fuel saving by coasting mechanism • Modified Cruising speed profile - Fuel saving employing “Eco-driving” coasting phenomena • Utilization of ship’s free inertial run at deceleration to reduce energy expenditure •

A Method for Optimizing Cruising Speed Profile using Coasting Phenomena for an Eco-Friendly Ship

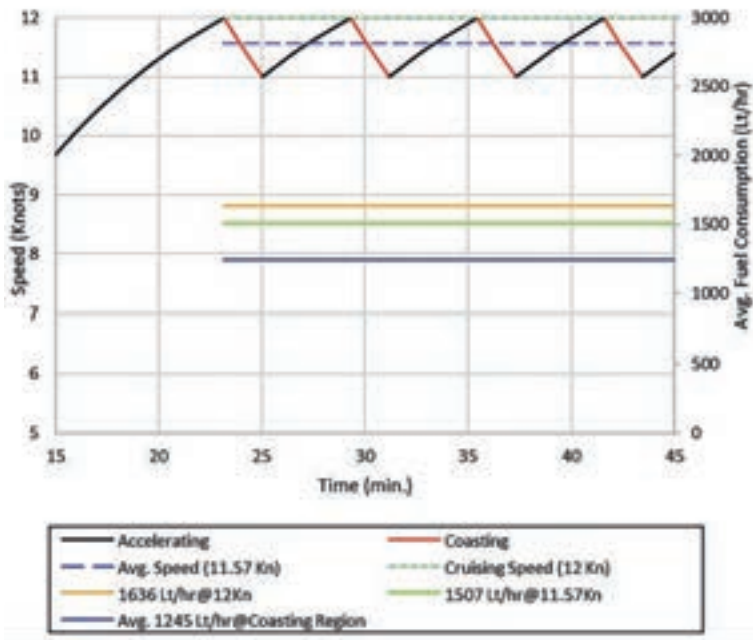
A ship does not stop immediately when its engines have been switched off. Due to inertia, the ship moves quite a large distance forward before stopping to a complete halt.

The stopping time is often 15 to 20 minutes, while the distance covered is many kilometres. The concept for the present project comes from the inertial running or coasting of ships. The term is generally used while describing the stopping capability of a ship.

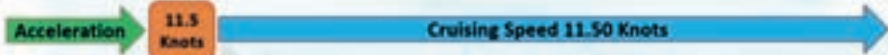
The motivation behind the project is to see whether this free travel can be used to our advantage towards obtaining a better energy efficiency. That is, while the ship can use its own power to reach a certain speed, its inertia can be used to move some distance forward without the expenditure of any extra energy. The idea digs deeper into this radical new

concept to periodically use and then stop using the propulsive power of the ships to save fuel, while maintaining the minimum desired speed. Having various challenges, advantages and disadvantages of its own, this project discusses the related issues and how to overcome them to fine-tune the process.

The project also discusses how to optimise the ships cruising speed profile, maximise the incorporated coasting phase and help reduce fuel consumption. As a preliminary approach, it is assumed that the test case is considered for a ship moving forward through still water with no ambient wind, current or sea waves. The only force propelling the ship forward is its engine rpm and propeller thrust and the only force opposing the motion is the resistance from hull friction and wave making •



• CONVENTIONAL:



• PROPOSAL:



Fuel Consumption (Lt/hr)	
Avg. Speed: 11.57 knots	1245
Cruising Speed: 11.50 knots	1507
At 12.00 knots	1636

