

OUTLINE

1. Internship Snapshot

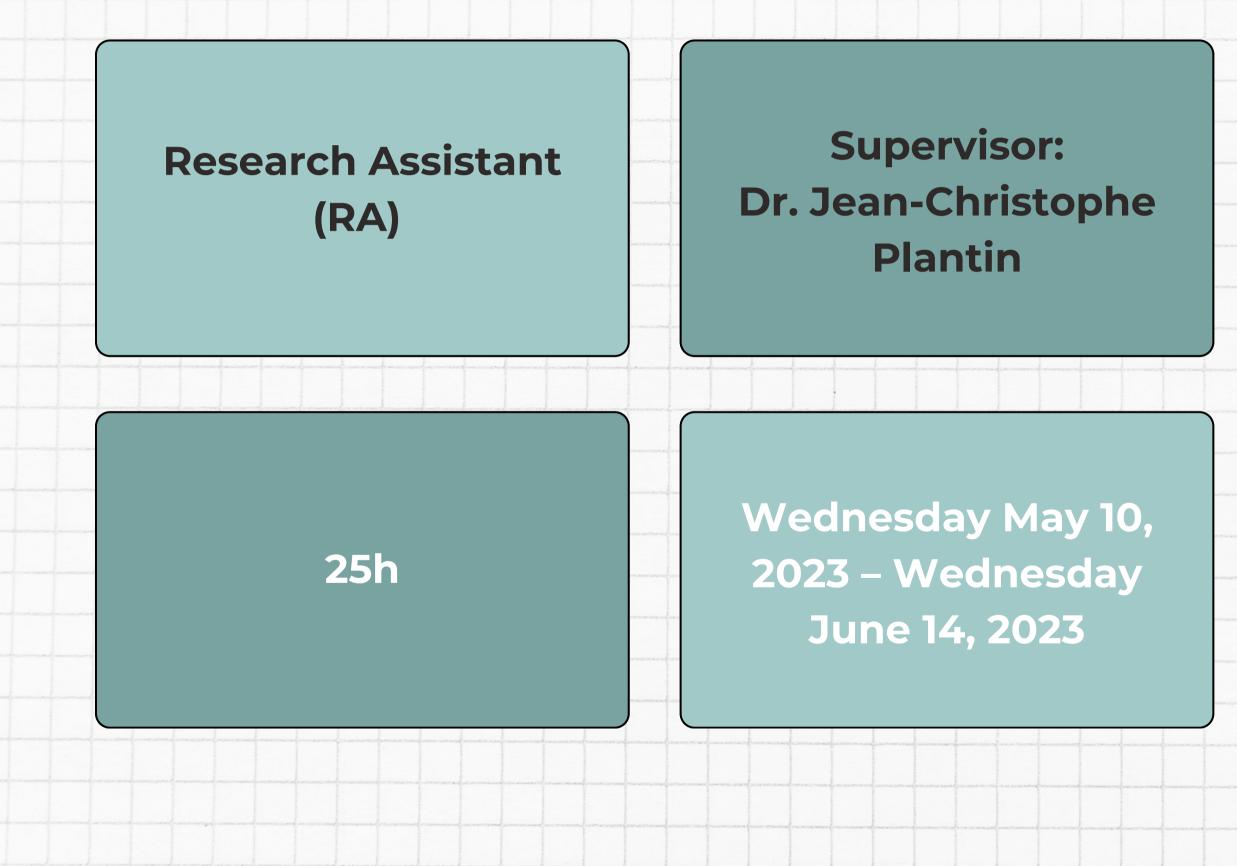
2. Research Outcomes: Internship Highlights

4. Key Learnings: The **Role of Education in Sustainability**

3. Internship Impact: Shaping the Course Curriculum

5. Improvement Suggestions for the Program

1. INTERNSHIP SNAPSHOT



MC434 Digital Platforms and Media Infrastructures

Key Duties

- Identify relevant documents and data on sustainability in the subsea cable industries
- Provide synthesis of key findings
- Production of data visualizations of key findings

2. RESEARCH OUTCOMES: INTERNSHIP HIGHLIGHTS

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Final Outcome: 40-page slides

2. RESEARCH OUTCOMES: INTERNSHIP HIGHLIGHTS

What is sustainability? DHow is it related to the subsea cable?

- Sustainable Subsea Networks Map
- "A blue industry going green" (Starosielski and Silcox, 2022): e.g., Orange Marine
- Environmental Impacts
 - Estimation
 - Life Cycle Assessment Models
 - Stage 1: Design and Installation
 - Stage 2: Life Power Usage and Operation
 - Stage 3: Decommissioning and Recycling

Wh a no

Sustainable Subsea Netwo



2. RESEARCH OUTCOMES: INTERNSHIP HIGHLIGHTS Landing station Landing static Marine operations Cable landing stations/ **Regulations on Sustainability Din the** (Cables, Cableships, Marine colocation data centers equipment) UNFCCC – Paris UNCLOS Agreement Subsea Cable Industry IMO Conventions ITU Resolutions Atlantic ocean • Regulatory Framework on Sustainability • Marine Operations Cable landing stations/colocation data centers • EIAs (Environmental Impact Assessments) • Initial State of Environment (e.g., soil, UNITED NATIONS Geology, etc.) PARIS CLIMATI Socio-economic and cultural environment SIGNING CEREMONY (e.g., population, tourism, etc.) 22 APRIL 2016 • Case Studies • the UK

OSPAR Maritime Area

2. RESEARCH OUTCOMES: INTERNSHIP HIGHLIGHTS

Tech Giants Projects of Subsea Cables and Sustainability

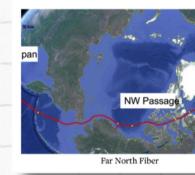
- The SMART Cables Solution
- Case studies
 - Google (e.g., Grace Hopper Subsea Cable)
 - Facebook (e.g., MAREA cable)
 - Amazon (e.g., Hawaiki cable)

Protests against Subsea Cable

Projects

 "Protesters line shorelines in Portsmouth to oppose Aquind cable plans - with some warning they could become 'militant'" (Lemmer, 2020)







Source: SMART Cables for Ocean Observing, no date



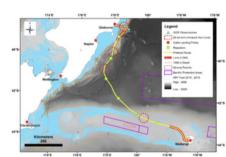
MEDUSA



Vanuatu - New Caledonia



Project Koe



Chatham Islands - NZ

Environment

Protesters line shoreline in Portsmouth to oppose Aquind cable plans - with some warning they could become 'militant'

MORE than 150 people have lined the shoreline in Portsmouth to show plans for a massive electricity infrastructure project in the area will be met with stiff resistance.

By Richard Lemmer

Published 10th Oct 2020, 18:51 BST - 2 min read Updated 10th Oct 2020, 21:17 BST

2. RESEARCH OUTCOMES: INTERNSHIP HIGHLIGHTS

Possible interesting resources

https://www.youtube.com/watch?v=hP7Agu65NDU&ab_channel=SubTelForum https://subtelforum.com/magazine/

https://www.iscpc.org/publications/submarine-cable-protection-and-the-environment/ Submarine Cable Map https://www.submarinecablemap.com/

Industry bodies

https://subtelforum.com/ SubOptic https://suboptic.org/ International Cable Protection Committee (ICPC) https://www.iscpc.org/ European Subsea Cables Association (ESCA) https://www.escaeu.org/ International Cablemakers Federation (ICF) https://www.icf.at/ Submarine Cable Networks (SCN) https://www.submarinenetworks.com/en Subsea 7 https://www.subsea7.com/en/sustainability.html Subcom https://www.subcom.com/

Organisations

Sustainable Subsea Network https://www.sustainablesubseanetworks.com/ Submarine Telecoms Forum https://subtelforum.com/ Society for Underwater Technology https://sut.org OSPAR Commission https://www.ospar.org/about: the mechanism by which 15 Governments & the EU cooperate to protect the marine environment of the North-East Atlantic. National Oceanic and Atmospheric Administration (USA) https://www.noaa.gov/general-counsel Biscay Marine Energy Platform https://www.bimep.com/en/ Marine Management Organisation (UK) https://www.gov.uk/government/organisations/marine-management-organisation Fiber Optic Sensing Association (FOSA) https://fiberopticsensing.org/ Oracle Cloud Infrastructure (OCI) https://www.oracle.com/cloud/

3. INTERNSHIP IMPACT: SHAPING THE COURSE CURRICULUM

- Provide Insights into how subsea cables play a crucial role in global connectivity and sustainable practices.
- Bridge a gap between theoretical understanding and practical applications in sustainability.
- Highlight the importance of interdisciplinary learning

4. KEY LEARNINGS: THE ROLE OF EDUCATION IN SUSTAINABILITY

- The undeniable power of
 - education in driving sustainable
 - change.

- Education in sustainability is
 - not just academic. It's about
 - real-world impacts.



5. IMPROVEMENT SUGGESTIONS FOR THE PROGRAM

• Extend internship duration

- Balance of guided and independent
 - research (we did well!)

• Implement a robust feedback system

