Contribution ID: **83** Type: **not specified**

A Marine Oil Spill Collection Device

This course project focuses on developing a portable oil spill recovery system that can be deployed from small vessels to clean contaminated ocean surfaces using mechanical methods. The main goal of this project was to develop a simple, effective design capable of rapidly containing and recovering oil spills before they could spread over large areas. This is especially important because oil spills pose severe threats to marine ecosystems, harming wildlife and causing long-term environmental damage. The system combines four main components: a surface-skimming funnel, a pump, a centrifugal separator, and an oil collection setup. The funnel was designed using CAD software, exported as an STL file, and 3D printed. Testing in a controlled environment showed successful visual oil recovery using a water-oil mixture, demonstrating the feasibility of the concept. This prototype highlights core mechanical engineering principles: fluid mechanics and density based separation, while addressing a critical environmental issue. Future improvements will focus on automation, wave stabilization, and scaling for real-world applications.

Primary author: EBANOIDZE, Saba

Session Classification: Parallel Session C: Engineering/Medical application topics & Interviews