Expert visit by Prof. Nikola Mišković (UNIZG-FER) and Prof. Roee Diamant (UNIZG-FER, University of Haifa) @UoM
11-12 May 2023

1. VENUE

University of Montenegro
Address: Faculty of Electrical Engineering, MONUSEN laboratory

2. SCHEDULE

Day 1: 11 May 2023 (Thursday)

10:15 - 11:00	**Laboratoy for Underwater Systems and Technologies (LABUST)**
11:15 - 12:00	**Introduction to acoustic-based underwater sensors**
12:00 – 13:00	Lunch
13:15 - 14:00	**subCULTron project**
14:15 - 15:00	**LABUST examples of implemented acoustic schemes**
15:00 - 15:30	**Discussion**

Day 2: 12 May 2023 (Friday)

10:15 - 11:00	**Basics of underwater acoustic communication, and recent results**
11:15 - 12:00	
12:00 – 13:00	Lunch

3. PLANNED OUTCOMES

- Get acquainted with activities in LABUST
- Get familiarized with acoustic communications and principles of sonar operation
- Get introduced to case studies with implemented acoustic communication schemes
- Get introduced and acquire hands-on experience with advanced acoustic communication equipment

4. LECTURE DESCRIPTION

1. Laboratory for Underwater Systems and Technologies (LABUST)

This lecture will focus on most recent achievements in LABUST, focussing on project and results.

2. Introduction to acoustic-based underwater sensors

Basic acoustic propagation description will be addressed, followed by acoustic modems and underwater localization methods. The lecture will be concluded with various types of sonars and applications in LABUST.

3. subCULTron project

This lecture is dedicated to the description of subCULTron project and main results. LABUST examples of implemented acoustic schemes.

4. LABUST examples of implemented acoustic schemes

This lecture will describe some of the acoustic communication schemes applied in various research projects.

5. Basics of underwater acoustic communication, and recent results

Advances in underwater technologies and the decreasing cost of acoustic sensors are progressively turning underwater acoustic communications (UWAC) into feasible tools for undersea operations such as seabed monitoring, contamination control, and search-and-survey operations. In this talk, we will discuss the challenges of reliable and secure UWAC from short range to long range, and from peer-to-peer to networks. Recent results will be discussed for long range communication, short packet transmission, and managing underwater networks.