



CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

RESEARCH

Ship Noise Impacts Dolphins

A new study by Prof. Roe Diamant, head of the Acoustics and Underwater Navigation Lab at the School of Marine Technologies, and Dr. Aviad Shainin, head of the Apex Predators division at the Morris Kahn Marine Research Station, [has found](#), using artificial intelligence technology, that ship noise affects dolphins. The researchers, who monitored dolphins in the Gulf of Eilat, discovered that dolphins communicate differently and alter their vocal behavior when encountering ship noise, confirming their susceptibility to this disturbance.

Swarm Is All You Need

Dr. Oren Gal, a participant in this year's Ambassadors Program, delivered a lecture on his research [utilizing swarms and artificial intelligence to benefit humanity](#). The adaptability and scalability of swarms make them well-suited for tasks that involve distributed sensing, acting, and processing. This opens exciting possibilities for addressing complex, large-scale challenges. Applications range from nanorobots for cancer treatment to environmental



Dr. Tal Luzzatto Knaan (Credit: Rami Shlush, Haaretz).

monitoring and conservation in the ocean, as well as disaster response, traffic management, and logistics, showcasing the significant advantages swarm intelligence can offer.

COMMUNITY ENGAGEMENT

World Oceans Day's cleanup

The School of Marine Sciences marked World Oceans Day with a [beach cleanup](#) at Sdot Yam in collaboration with the Israeli Diving Federation. Researchers, students, and faculty joined forces to collect waste from the sea and shore. While this initiative is just a drop in the ocean, it serves as a reminder of our responsibility to keep the sea clean and healthy.

Dangerous Journey

In a [new study](#), researchers from the Morris Kahn Marine Research Station, in collaboration with Greenpeace, documented the longest distance traveled by a sperm whale in the Mediterranean Sea. The distance between sighting locations represents the furthest recorded movement of this species in the region, indicating that the whale undertook a hazardous journey.

Autonomous Robot for Marine Research

A unique collaboration between Hugim Highschool and the School of Marine Sciences focuses on designing and producing a marine platform for studying the sea and climate

change. Guided by Dr. Itzik Klein, [students engage](#) in hands-on learning at various research sites, including the Institute for Sea and Lake Research and the University of Haifa. The project aims to inspire high school students to explore marine technology and its significance for environmental preservation.

LEARNING AND STUDENTS

What To Do Next?

The School of Marine Sciences hosted a ['Careers in Science' workshop](#) for master's and doctoral students to explore diverse career options post-graduation. Four guest scientists from various fields shared their personal stories and professional paths, offering insights into

careers in biotechnology, becoming an environmental consultant, opportunities in education (such as teaching, teacher training, and curriculum development), and transitioning from research to policy.

Award for Blue Economy Training Program

The training program for developing projects and innovation in marine fields, a collaboration between the School of Marine Sciences and the Center for Innovation and Entrepreneurship, has [won an award](#) from the University. The program promotes blue economy in Israel and was selected as an impactful project with a direct influence on society and the environment, advancing the university's vision of implementing the UN Sustainable Development Goals.

New MA Program - Maritime Strategy

The ocean, covering more than two-thirds of the Earth, is a central arena in the modern world. Climate change, the development of the blue economy, and increased migration from inland areas to coastal regions have made the marine environment more vital than ever in the 21st century. The [unique master's program](#) in maritime strategy aims to train the next generation of managers, entrepreneurs, and leaders in this domain.

OPERATIONS

Groundbreaking approaches to autonomous navigation.

Dr. Itzik Klein heads the [Autonomous Navigation and Information Fusion Laboratory \(ANSFL\)](#), which focuses on developing groundbreaking approaches to autonomous navigation using artificial intelligence. The lab is located within the Center for Marine Technologies on the shores of Haifa. Research conducted at the lab integrates artificial intelligence into navigation applications in areas such as robotics, autonomous vehicles, drones for building monitoring, and logistics.

The Functional Metabolomics and Natural Products Lab

Dr. Tal Luzzatto Knaan leads the Functional Metabolomics and Natural Products Lab in the Department of Marine Biology. [This lab](#) employs a cutting-edge, multidisciplinary approach to investigate the biological roles, regulation, diversity, and distribution of natural products in microbes and algae, as well as their potential biotechnological and medicinal applications. She also heads the new Interdisciplinary Center for Metabolomics and Natural Products at the University of Haifa and is actively involved in the "Homeward Bound" initiative for Women in STEMM Leadership.