

Newsletter

SPRING 2022

The Leon H. Charney School of Marine Sciences

GREETINGS FROM THE HEAD OF THE SCHOOL

Spring 2022 brings with it exciting news to the Leon H. Charney School of Marine Sciences. Following a vote of confidence by the University Senate and top administration, we are now an independent academic unit of the University of Haifa and not linked to any existing faculties. This decision aligns with the original vision of the founding members of the School to establish a comprehensive inter-disciplinary School of Marine Sciences and to highlight the importance of marine sciences in this blue world. I would like to take this opportunity to thank these visionaries and especially Leon H. Charney and Zvi Ben-Avraham who saw the future and set us on this path toward developing marine sciences. Independence means that we must work harder to ensure continuity in our quest to provide excellent data-based science upon which to base application and/or to make management decisions that will ensure our sustainable future with the sea. We are recruiting new faculty, developing a new department (Sustainable Mariculture and Blue-Technologies), and actively seeking new graduate students and post-docs for all our programs.

This past year the University of Haifa was the first university in Israel that committed to adopt and act on the UN's 17 SDGs through research, teaching, public engagement, and operations. The School of Marine Sciences is proud to align with these goals and is actively engaged with and contributes to many of the UN 17 SDGs including those illustrated below. As part of our engagement, we have also developed new courses that competed for and won University support. These courses (see below for details) show the characteristic inter-disciplinary nature of marine sciences by encouraging collaborations across departments and faculties to teach and provide state-of-the-art platforms for today's students.

I hope you enjoy this Spring issue. I wish everyone a successful end to the semester and a good summer.

Sincerely,

Alan Berman-Frank



Congratulations to our new PhD's

Department of Marine Biology:

Maayan Neder

Tamar Leshem

Miri Morgulis

Ilia Burgsdorf

Dr. Moses Strauss Department of

Marine Geosciences:

Akos Kalman

Mariana Belferman

Hadar Elyashiv



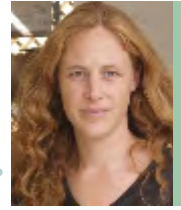
Congratulations to our Faculty who have received the Rector's support for their research and courses that are applicable to the UN's Sustainable Development Goals (SDGs)

Researchers	Research / Course title
R. Diamant (Marine Technologies Department)	Technological aids to explore the impact of shipping underwater radiated noise on the behavioral of sea turtles
D. Tchernov (Marine Biology Department) & A. Brook (Geography and Environmental Studies Department)	Development of a protocol for growing porphyridium (red unicellular algae to produce protein fractions
D. Sher (Marine Biology Department), M. Lazar & M. Tsadka (School of the Arts)	Water quality and pollution along the Mediterranean beaches: science, education and art in the community
T. Luzzatto Knaan (Marine Biology Department) & Alvaro Israel (IOLR)	Algae as a source for sustainable agriculture, biotechnology and food security.
M. Lazar (Marine Geosciences Department), in cooperation with D. Sher (Marine Biology Department) & M. Tsadka (School of the Arts)	Science and art in communicating environmental problems
Y. Lehan, G. Mizrahi (Marine Geosciences Department) & A. Brook (Department of Geography and Environmental Studies)	Drone-based environmental research and monitoring

NEWS FROM DEPARTMENT HEADS

Dr. Moses Strauss Department of Marine Geosciences

Dr. Beverly Goodman-Tchernov



The Department of Marine Geosciences has been busy working towards its goals of better understanding the deep sea, mapping and interpreting the ocean floor and its underlying foundations, and discovering ways to better contribute to our understanding of and our solutions for the processes at work on our planet. The past half year has been characterized by some return to normalcy, especially the renewal of more in-person activities both in the classroom and in the field; a welcome shift that comes with renewed optimism and enthusiasm!

Students and faculty have been busy heading out on research cruises and other fieldwork, particularly in the Mediterranean, Red Sea, and Dead Sea. Collaborative fieldwork within the department and with fellow departments included collecting sediments for plastics assessment, both on coastlines and in the sea, as well as testing newly developed acoustics technologies (emeritus Prof. Boris Katsnelson and student Ernst Uzhansky, with marine technologies Prof. Roe Diamont and others) and retrieving stratigraphic archives to assess for hazard and climate events (Dr. Bookman).

Students and faculty presented their most recent results as well as research-in-progress, demonstrating the wide range of international as well as local contributions during the recent Israel Geological Society Meetings in Nir Etzion (April 3-5, 2022). The conference included marine sessions throughout both days, with our department represented in every one of these sessions, and as co-authors in more than half of the work presented!

Publications by our faculty members have been pouring in since last summer, many including international collaborations and field sites. Countries represented included South Africa, Yemen, Brazil, Chile, Cyprus, Turkey, Norway, Kenya/Tanzania, United States, Canada and Mexico. Some special highlights from publications include Prof. Schattner's study

addressing the continental rise zone, tackling issues with local collaborators related to little understood ripple features, as well as international colleagues Dr. Bernhardt from Freie Universiti in Berlin, Germany and Prof. Mahique from Sao Paulo University in Brazil (Schattner et al 2022, Basin Research). Prof. Makovsky, Dr. Bookman and PhD student Matan Elad published an assessment of the Goliath submarine collapse structure, an underwater landslide that may have generated tsunami waves. This work better defines its timing, a significant addition to the understanding of marine hazards and risk (Elad et al. 2022, Sedimentary Geology). Dr. Waldmann and student Parth Shaw published a climate reconstruction from karst lakes in Yemen that produced a rare 1200-year record of monsoons and fill in data from a data-deficient geographical region (Shaw et al. 2022, Frontiers in Earth Science). Dr. Goodman-Tchernov's collaboration with Turkish colleagues led to the discovery of a human victim found within a Thera eruption-related (Santorini) tsunami deposit in Turkey (Sahoglu et al., 2022, PNAS).

Dr. Michael Lazar, one of our department's coastal specialists and geophysicists was recently awarded special funding to launch a new course with colleagues Daniel Sher (Marine Biology) and Maayan Tsadka (School of Arts) entitled "Science and Art in communicating Environmental Problems". This course brings 'all hands on deck' from multiple disciplines to explore different ways to communicate and express environmental issues through a wide range of mediums. This team also received support for a community-based study of water quality and pollution along some of the most beautiful Mediterranean beaches in Israel. Another new course, Drone Based Environmental Monitoring, was funded by a grant from the University's new sustainable development goals initiatives. Dr. Yoav Lehahn and Dr. Brook (Department of Geography) will coordinate the course with lab manager and Department of Marine Biology alum, Dr. Gur Mizrahi.



Recent grants mean more amazing opportunities for new graduate students! Prof. Makowsky was awarded a three-year grant from the Israel Ministry of Energy for Mediterranean marine geophysical research, "Characterization of seafloor gas emanations and their potential linkage with sub-sea reservoirs in the Levant". Dr. Yoav Lehahn, with University of Haifa colleagues Tomer Sagi (Information Systems Department) and Tali Treibitz (Marine Technologies) from Math Sciences and Marine Biology were awarded a five-year grant from VATAT Data Science Competitive Grant (DSCG) for their project, "Advancing Data Science to Serve Humanity and Protect the Global Environment: Using an Ocean of Data to Drive Innovation in AI-based Data Integration and Computer Vision".

Events between Ukraine and Russia are on everyone's minds, and Dr. Regina Katsman responded to the need by sponsoring a scientist who, after he and his family relocate to Israel, will reach out to the Israeli Academy of Sciences for assistance. We look forward to hosting him for three months as a visiting scientist, during which time he will be applying his work in solid mechanics, physics and numerical modeling to research questions linked to earthquake properties. We hope this can be a bit of light in such dark times.

The department wishes good health, calm seas, peaceful days, and interesting research finds to all!



University of Haifa Faculty, Alum, and Students reunite during the Israel Geological Society Meetings in April 2022.



Department of Marine Geosciences Students and Postdoctoral Fellows who presented talks and posters in this year's IGS meetings in Nir Etzion (L-R Postdoc Akos Kalman, MSc student Yarden Aaltonen, PhD student Omry Nachum, MSc student Gabriel Tolulope, PhD student Alyssa Pietraszek, and MSc student Hilit Kranenburg-Geography).



Improving drone skills during fieldwork in the Dead Sea (Postdoc Akos Kalman, MSc student C.J. Everhardt IV, and MSc student Mo Adem).

The Department of Marine Biology

Prof. Tamar Lotan



I would like to welcome our new and continuing students. This year, 11 PhD students and 17 MSc students joined our programs and, overall, there are currently about 80 students in the Marine Biology department. We have reorganized the syllabus and we refocused two of the courses on current challenges in the Mediterranean Sea and added two field trips. We took a trip to the Kishon River to see the restoration of what had been a highly polluted river and we also visited the old and new Haifa ports. In March, we celebrated face to face our 8th annual Academic Get Together with excellent talks and poster presentations. Our congratulations to Prof. Danny Tchernov, who has been promoted to full professor.

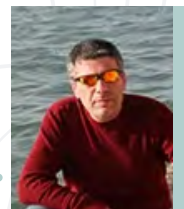
Wishing all our students, scientists, and staff an enjoyable spring and successful end of the semester.



Educational tour to the Kishon River Reserve

The Hatter Department of Marine Technologies

Prof. Morel Groper



Following a long winter with bad sea and limited capability to perform sea-going experiments, the research in our labs focuses now on accomplishing long planned sea experiments. In the underwater vehicles lab (UVL) comprehensive maintenance work was performed on both the YONA ROV and the SNAPIR AUV toward planned missions in spring and summer.

Following several months of diplomatic and Covid-related delays, the Laboratory for Computational Optics and Light in the Ocean Realm (COLOR Lab) headed by our new faculty member, Dr. Derya Akkaynak, finally opened its doors with her arrival to Israel in January 2022 (See details in next section). The COLOR Lab is situated on the campus of the Interuniversity Institute for Marine Sciences in Eilat

and will conduct research on problems of biological and computational vision in the ocean, as well as on visual ecology. By June, the lab expects to have five members who will arrive from Turkey, Germany, US, and Denmark. The COLOR Lab is currently supported by an "Enabling Ocean Technology" grant from Schmidt Marine Technology Partners, a hardware grant from NVIDIA, and a research gift from Adobe.

At the Subsea engineering lab, Yuri Katz graduated with his MSc. on the topic of "On the Development of a Mid Depth Lagrangian Float for Littoral Deployment". His exciting work was appreciated by the final exam committee and currently the float is being prepared for additional trials and real data collection in the Mediterranean. Our ALICE

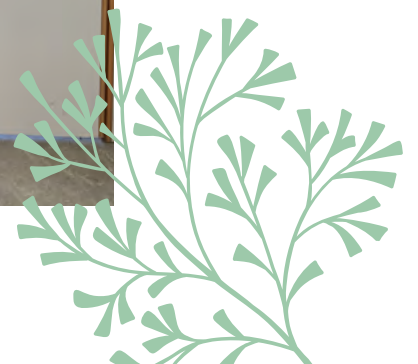


AUV continues to develop, promoted by the newly received grant from the Israel MOD. Currently, we are focusing on the development of a unique silent docking station and on the delicate rendezvous between the docking station and the AUV. The work on ALICE is based on an exciting collaboration between the SUBSEA Engineering lab headed by Morel Groper and the VISEAON Marine Imaging Lab headed by Tali Treibitz. More from the VISEAON lab: Judith Fischer graduated with her MSc on the topic "Deep Depth-of-Field for Microscopy On-the-Go". Naama Pearl is also about to submit her MSc thesis, based on a paper entitled "NAN: Noise-Aware NERFs for Burst-Denoising", accepted to the IEEE conference on Computer Vision and Pattern Recognition. This is the top conference in computer vision, ranked #4 OVERALL in the Google Scholar Citation Index (where Science is in 3rd place). The paper presents a method for recovering a clean image from multiple noisy images under strong movement, a common situation in underwater imaging. This work was a joint effort with Dr. Simon Korman from the computer science department. During the first quarter of 2022, the Underwater Acoustic and Navigation Laboratory (ANL) has advanced in the algorithmic design for project CETI – the Cetacean Translation Initiative project. We have conducted a few sea trails, both in Israel and in Dominica, to collect ground truth information, and have finalized an adaptive beamforming algorithm to track the whale's bearing, and a localization algorithm to track their trajectory. We have also successfully performed a mechanical and electrical integration in Texas A&M of our "whale recording units" with the moorings, and the project is reaching its critical phase of in-field deployment. Besides CETI, we have also designed and tested a protocol for cyber security for underwater acoustic networks (NATO Project), a long-range communication algorithm and test (Ministry of Security project), a design of an active acoustic scheme for detection

of sea turtles (Ministry of Energy project), and an optimal deployment strategy for recorders in a testbed (Ministry of Science project) and for floaters exploring the water current (Israel-Germany project). The Autonomous Navigation Sensor Fusion Lab (ANSFL) is growing with the addition of two new students to our team, making a total of 15 students. In January, a special session organized by ANSFL was held at the First International Israel Data Science Initiative Conference (IDSI 2022) January 3 – 6, 2022. The session showcased ANSFL's research in data-driven based navigation. To support ANSFL research activities, during this quarter we purchased and received several types of inertial sensors (differing in grade and price) and an accurate GNSS RTK station. Among them is a set of 15 inertial measurement units with 90 synchronized inertial sensors. Any platform (AUV, quadrotors, robots), human or animal, could easily be fitted with the system.



Our new faculty member, Dr. Derya Akkaynak, at the entrance to her new lab at the Interuniversity Institute for Marine Sciences in Eilat



NICE TO MEET

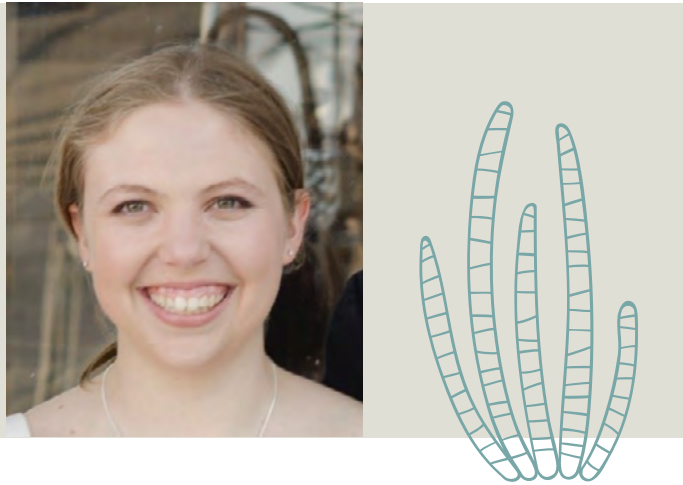
Welcoming our new Zuckerman postdoctoral scholar

Dr. Chrissy Hal

Host - Dr. Nicolas Waldmann

The Basin Analysis and Petrophysical Lab (PetroLab)

The Dr. Moses Strauss Department of Marine Geoscience



We are happy to welcome to CSMS our new Post-doctoral scholar from the Zuckerman STEM leadership program that “supports future generations of leaders in science, technology, engineering, and math in the United States and Israel”.

Dr. Hall is a Zuckerman Scholar with joint appointments in the Dr. Moses Strauss Department of Marine Geoscience and the Department of Geosciences at the University of Connecticut, USA. She previously completed her PhD at the University of California, Riverside, studying changes in ostracode community structure and morphology across Eocene Thermal Maximum 2. Before that, also at UC Riverside, her Master’s project focused on enigmatic soft-bodied fossils with three-fold symmetry from the Ediacaran of South Australia. Her current research interests are focused on understanding the relationships between animals and changing aquatic environments in deep time, and how these changes vary between marine and freshwater settings. Her postdoctoral research

uses changes in ostracode assemblages to help reconstruct paleoenvironmental changes in Pliocene paleolake deposits at two sites in Israel. In her spare time, Chrissy enjoys reading and hiking.

We wish Dr. Hall a productive and happy time in our School and hope that her experience will be a positive and enriching one.

Using Sedimentology and Paleontology to Reconstruct Pliocene Paleoenvironmental Conditions in the Levantine Corridor

The goal of this research is to reconstruct the Pliocene paleoenvironmental conditions at two sites, Erk el Ahmar in the central Jordan valley and Bnot Lot at Mt. Sedom, to better understand the natural variability that controlled the landscapes and what organisms were able to live in the area. Paleoenvironmental conditions will be evaluated by analyzing the sedimentological properties and the microfossils contained within core and outcrop samples to assess what processes were influencing the deposition of those sediments. The bulk of the research will focus on investigating changes in ostracode (small, bivalved crustaceans) assemblages. Ostracodes are very diverse and occur in a wide range of aquatic environments and salinities, with individual species often having specific environmental tolerances, making them ideal for identifying environmental shifts through time. I will use the fossil assemblage data to determine aspects of the water quality, such as depth and salinity, of the aquatic settings. By combining these lines of evidence, this project will be able to develop a comprehensive view of the paleoenvironment of the region, and of how changes in climatic processes impacted the area through time.



WELCOME NEW FACULTY

Dr. Derya Akkaynak

Head of the Computational Optics and Light in the Ocean Realm Lab (COLOR Lab), Eilat
The Hatter Department of Marine Technology

Derya Akkaynak is from Urla (İzmir), Turkey, and received her BSc in Aerospace Engineering at the Middle East Technical University in Ankara, and her MSc in Aeronautics and Astronautics at MIT. After a short consulting career in finance that ended with the financial crisis of 2008, she received her PhD in Mechanical and Oceanographic Engineering at MIT & Woods Hole Oceanographic Institution. Derya has professional, technical, and scientific diving certifications and has conducted fieldwork from the

Bering Sea to Antarctica. She is an honoree of the 2019 Blavatnik Awards for Young Scientists and was previously a postdoc in the Marine Technologies department where she is now a tenure-track faculty member. She is also the first scientist from the University of Haifa to be a resident at the IUI in Eilat.



MEET OUR STUDENTS

Sonja Rigterink - PhD Candidate

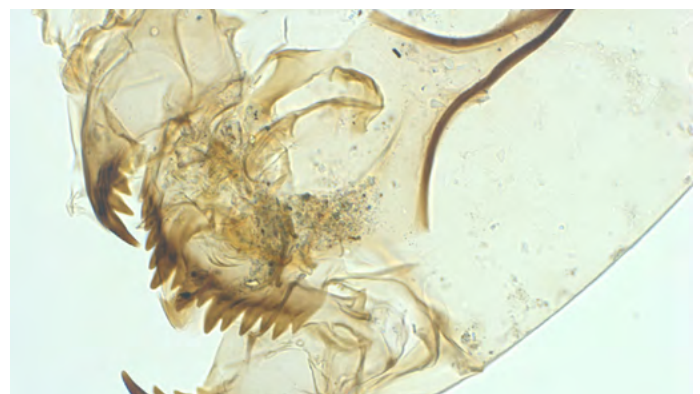


I am a doctoral researcher from Braunschweig, Germany. I graduated from the Technische Universität Braunschweig in 2018 with a BSc in Geoecology and completed my MSc in Environmental Sciences in 2020. I am studying lacustrine sediments to determine past climatic and environmental changes using (sub)-fossil chironomid larvae remains, which are stored in up to 300,000-year-old sedimentary archives. The main goals of my research are to infer former lake evolution and environmental variability of lacustrine

environments, within a context of improving the prediction of future lake vulnerability and present-day climate change.

My current research projects deal with variability of interglacial and glacial periods in northern Germany as well as hydrological changes in Tibetan lakes during the last 300 years.

I received a scholarship within the "SANDWICH" program from the University of Haifa. From April through June 2022, I am part of the working group of Dr. Nicolas Waldmann, Department of Marine Geosciences, U. of Haifa. My research will focus on sediments from Lake Hula (northern Israel), especially the ecology and taxonomy of chironomid larvae microfossils of the Levante.



CONGRATULATIONS

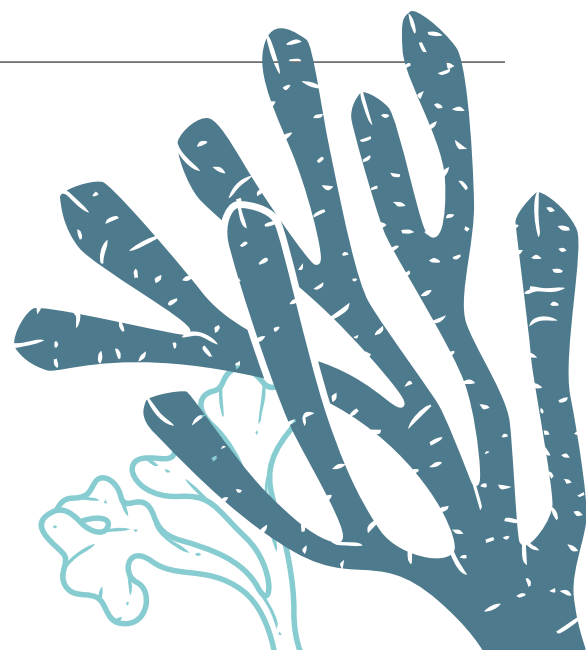
Congratulations to our faculty for newly funded grants:

Principal investigator	Project name
Y. Lehan (Marine Geosciences Department), T. Treibitz (Marine Technologies Department) & Tomer Sagi (Information Systems Department)	Advancing data science to serve humanity and protect the global environment: using an ocean of data to drive innovation in ai-based data integration and computer vision
Y . Makovsky (Marine Geosciences Department)	Characterization of seafloor gas emanations and their potential linkage with sub-sea reservoirs in the Levant
U. Schattner (Marine Geosciences Department)	Stratigraphic analysis of the US Atlantic continental margin based on seismic reflection data
M. Groper (Marine Technologies Department)	Underwater mechanical components
R. Diamant (Marine Technologies Department)	Analysis of shipping radiated noise
Roe Diamant (Marine Technologies Department) & Dan Feldman (Computer Science Department)	Optimal deployment strategic for drifters for ocean current probing
R. Diamant (Marine Technologies Department) & B. Katznelson (Marine Geosciences Department)	Collection of shipping underwater radiated noise

Congratulations on faculty promotions

Dan Tchernov - Full Professor

Yizhaq Makovsky - Associate Professor



RESEARCH HIGHLIGHTS

Physiological Adjustments of Elasmobranchs and Teleost's to Ocean Acidification with a Focus on Sharks

Ziv Zemah-Shamir, Shiri Zemah-Shamir, Aviad Scheinin, Dan Tchernov, Teddy Lazebnik and Gideon Gal

<https://www.mdpi.com/2410-3888/7/2/56>

When the ocean waters absorb anthropogenic carbon dioxide (CO₂), slow-growing shark species with long generation times may be subjected to stress, leading to a decrease in functionality. Our study goal was to examine the behavioral and physiological responses of sharks to OA and the possible impacts on their fitness and resilience. We conducted a systematic review, in line with PRISMA-Analyses, of previously reported scientific experiments. We found that most studies used CO₂ partial pressures (pCO₂) that reflect representative concentration pathways for the year 2100 (e.g., pH ~7.8, pCO₂ ~1000 µatm). Several studies indicated

a decrease in shark fitness in relation to increased OA and CO₂ levels. However, the decrease was species-specific and influenced by the intensity of the change in atmospheric CO₂ concentration and other anthropogenic and environmental factors (e.g., fishing, temperature). Most studies involved only limited exposure to future environmental conditions and were conducted on benthic shark species studied in the laboratory rather than on apex predator species. While knowledge gaps exist and more research is required, we conclude that anthropogenic factors are likely contributing to shark species' vulnerability worldwide. However, the impact of OA on the long-term stability of shark populations is not unequivocal.

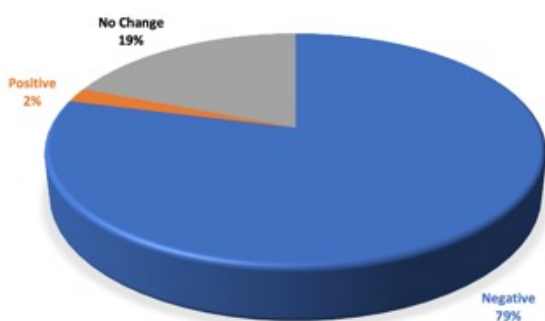
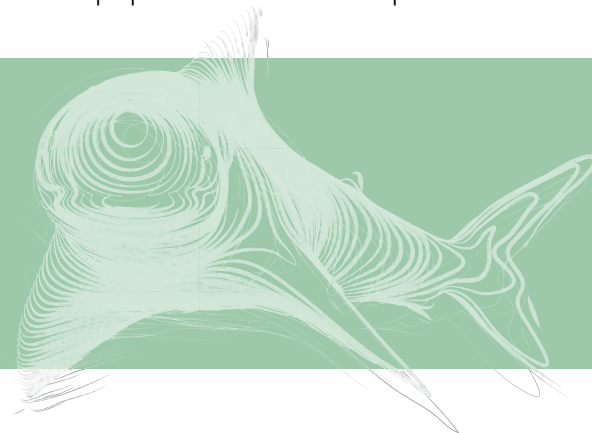


Figure 1. Experimental papers describing negative (79%), positive (2%) or no-change (19%) effects in response to elevated CO₂ concentration on fishes.



Winter challenges

After two cancellations of scheduled research cruises due to stormy conditions, the MKMRS Krom and Steindler labs finally succeeded in performing the winter water sampling of 800 m station, funded by the Leon Charney School of Marine Science. Sea conditions atop the RSV Med-Ex were rough to

begin with, but soon grew calm, accommodating to our needs of focus.

We appreciate all the hard work of Eli Shemesh, Ecoocean volunteers and crew Aviad and Dror, without whom this would not have been possible.



Left Photo: Eli Shemesh

Right Photo: Aviad Ron

Collaborating for Change in the Enchanted Islands

The Galapagos Islands are facing growing threats and challenges driven by both human activity as well as climate change. In February 2022, the first of its kind "International Symposium Galapagos-Israel 2022" was held in the Islands of Santa Cruz and San Cristobal, Galapagos, Ecuador. Twelve Israeli scientists participated in this initiative, three of them from the Charney School of Marine Sciences: Prof. Roe Diamant (Marine Technologies), Prof. Tali Mass (Marine Biology) and Dr. Tal Luzzatto Knaan (Marine Biology). The aim of this meeting was to strengthen

collaboration and scientific research between the academic sectors of Ecuador and Israel on issues of relevance to the Galapagos, such as evolution, environment, genetics, climate change, food security, invasive species, and sustainability, among others. The Charles Darwin Foundation (CDF) and the University of San Francisco-Quito (USFQ) hosted this symposium in collaboration with Tel Aviv University. The meeting also supported by the Ambassador of Ecuador in Israel, Hellen Deller Klein, and the Ambassador of Israel in Ecuador, Zeev Harel.



Galapagos
Tortoise
Photo:
Tal Luzzatto
Knaan



Roe, Tali, Tali and marine Iguanas at the Charles Darwin Research Station, Santa Cruz Island, Galapagos
Photo: Sigal Abramovich



Tali and Tal diving at Kicker Rock- San Cristobal Island, Galapagos



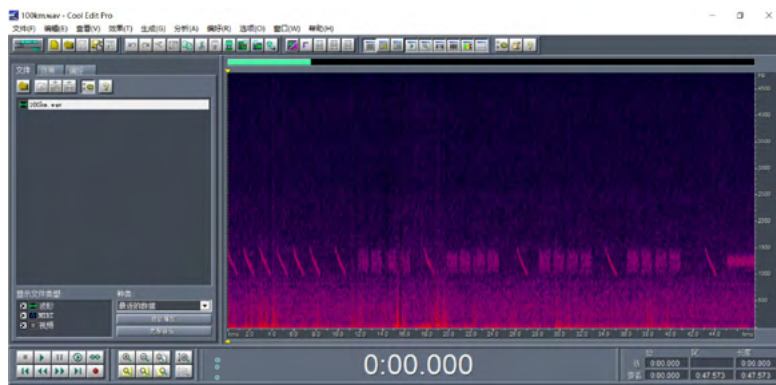
School of fish at Daphne Minor, Galapagos
Photo: Tali Mass

The Underwater Acoustic and Navigation Laboratory (ANL)

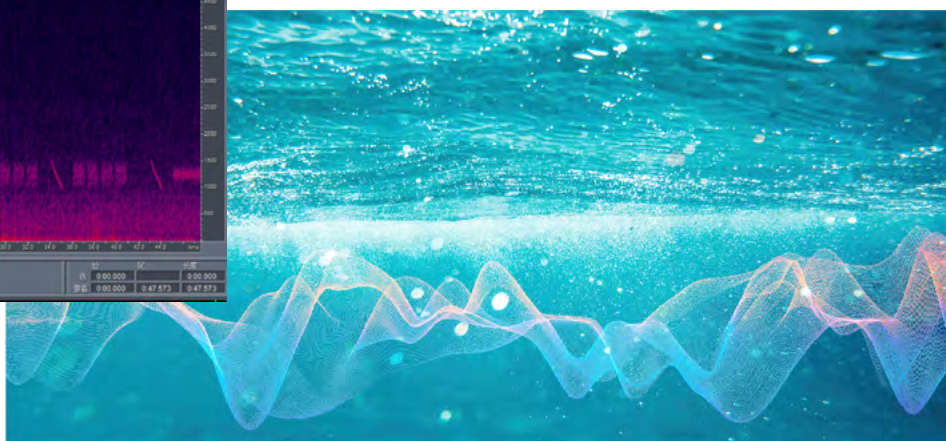
Prof. Roei Diamant

During the first quarter of 2022, Roei Diamant's Underwater Acoustic and Navigation Laboratory (ANL) has performed a few interesting experiments. In the IUI in Jan., the lab operated a network of seven underwater modems to test a new algorithm for cyber security for underwater acoustic networks. A followup test in the Kineret in March validated the results and the system is about to be adopted by NATO for their naval operations. In Feb., together with Tamar Lotan's lab, we explored the motion of jellyfish by attaching acoustic tags on three jellies and tracked their location compared to the motion of drifters. Results show indications of jells moving

counter to the water current. In the same operation, we performed our final experiment for a new system to detect the existence of sea turtles by active sonar. Ranges from the Sea Turtle Rescue Center released two rehabilitated turtles, while we detected the turtles and managed to follow their trajectory. Finally, in March, as part of the school cruises for year 2022, we conducted a unique experiment for long range acoustic communication, where we successfully transmitted low frequency signals from the Haifa bay to Cyprus (some 220km away), and to a boat in the middle (100km distance).



A time-frequency spectrogram of the signal as detected at 220km.



Left: The release of one of the rehabilitated sea turtles before it was detected by the sonar

Right: ANL's technician, Liav Nagar, holding the self-made acoustic recorder at the long range deployment site in Cyprus

The Viseon Marine Imaging Lab

Prof. Tali Treibitz

During an experiment with the Alice AUV, at the Achziv Kenyon diving site, the submerged vehicle took a shot of a sea turtle, which appeared as a guest of honor.

The experiment is part of the EU's Deepersense initiative, working on fusing image-sonar data for the

improvement of AUV's perception and navigation. The photo was taken with the AUV forward-looking-camera at a depth of 10 meters on March 1, 2022, by the operators PhD student Yevgeny Gutnik, supervised by Prof. Morel Groper, and software engineer Nir Zagdanski.

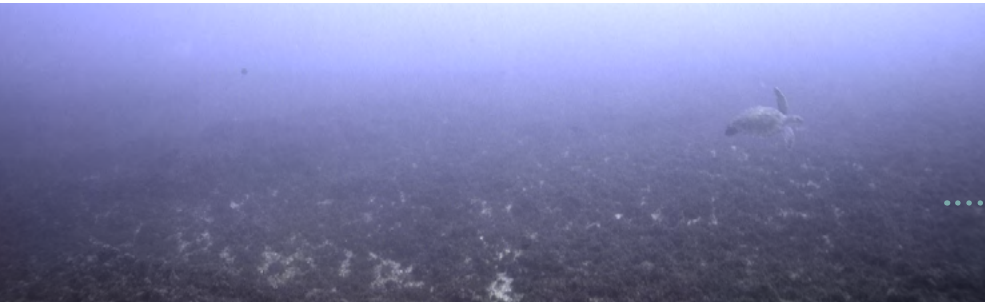
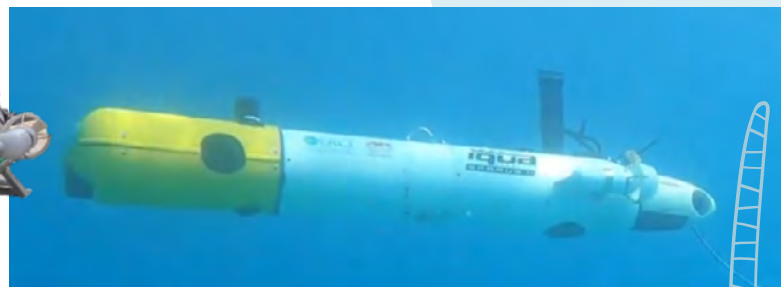


Figure showing Sea turtle spotted with the forward-looking-camera on the Alice AUV

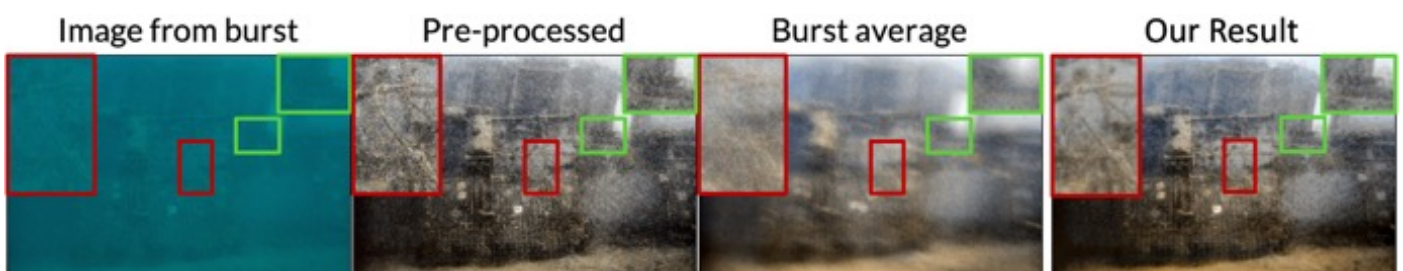


CVPR PUBLICATION



A paper based on the MSc thesis of Naama Pearl, a student in the Viseon Marine Imaging Lab, was accepted to the IEEE Conference on Computer Vision and Pattern Recognition. This is the top conference in computer vision, ranked #4 overall in the google scholar citation index (where Science

is in the 3rd place). The paper presents a method for recovering a clean image from multiple noisy images under strong movement, a common situation in underwater imaging. This was a joint work with Dr. Simon Korman from the computer science department.



CONFERENCES/WORKSHOPS

SAVE THE DATE:

Climate | Ocean | Change

SUSTAINABLE DEVELOPMENT GOALS

9th Haifa International Conference in Marine Sciences

University of Haifa

19/06/2022
9:00-18:00

In-Person and Hybrid participation

Keynote Speaker
Prof. Amy Clement
Climate Scientist
University of Miami, Florida

Dr. Sylvia Earle
Oceanographer
Mission Blue

Prof. Kenny Broad
Anthropologist
Cave Explorer

Dr. M Jackson
Glaciologist
Author

Student Organized Event

ECOCEAN
Caring for the Marine Environment

LEON H. CHARNEY
SCHOOL OF MARINE SCIENCES
בית הספר למדעי הים על שם לאון צ'רני

אוניברסיטת חיפה
University of Haifa
جامعة حيفا

חיפה
Haifa

Come and join us at the 9th Haifa Conference in Marine Sciences: Climate and the Sea on June 19, 2022! We want to give everyone the chance to learn more about climate change and the ocean so this won't be your traditional academic conference.

Leading scientists, companies, policymakers, students, and YOU can come together to discuss the link between the ocean and climate change! Only by working together can we create solutions to preserve the oceans of tomorrow!

Keynote talks by Prof. Amy Clement and Prof. Kenny Broad from the University of Miami. Also featuring a talk by Dr. Sylvia Earle!

On the day of the conference, we will walk through the climate-related issues plaguing the world today, the science behind climate change and the oceans,

and various solutions that are being implemented locally in Israel and around the world!

We will also be highlighting different companies that were established in Israel and are working on developing solutions to some of the largest environmental problems we are facing today, such as single-use plastics, unequal access to clean water, and carbon emissions!

In addition, the conference will also feature several grassroots movements and poster presentations by university students, with a special session only in Hebrew for high school students and the general Hebrew-speaking public.

For more information visit the [conference website](#).

To register click [here](#).

Hope to see you there!

FROM THE MEDIA

Link to the full media coverage of CSMS activities:

marsci.haifa.ac.il/en/school/news/



Selected articles:

Israel-UK researchers to map whales, dolphins in area set for oil, gas exploration

Charney School teams up with Greenpeace International and Greenpeace Israel to map the marine mammal population in the Mediterranean Sea



Catastrophe looms for Dead Sea as incoming water sources dry up, scientist says

The Dead Sea sinkhole situation is worsening, according to a marine scientist, who is warning of a looming environmental catastrophe.

"At present, there are over 6,000 sinkholes on the western [Israeli] side alone," said Dr. Michael Lazar, from the Dr. Moses Strauss Department of Marine Geosciences

Israel or around the world, "as sea levels rise, more and more (coastal) communities are at risk."



Study sheds light on 3,600 year old TSUNAMI debris

Skeletons of a young man and a dog who were killed by a tsunami triggered by the eruption of Santorini's Thera volcano 3,600 years ago were recently uncovered at Çeşme-Bağlararası in modern-day Turkey. According to the research team, co-led by Dr. Beverly Goodman-Tchernov (Head, Dr. Moses Strauss Department of Marine Geosciences) and Dr. Vasif Şahoğlu from Ankara University (Turkey), the area was rocked by at least four different tsunamis following the eruption of Thera. "This is the first time that victims of the Thera eruption have been discovered," says Dr. Goodman-Tchernov. "As we analyze the volcanic ash layers at the site using advanced archaeological and sediment

analysis methods, we hope to gain a better understanding of what happened to the area after the explosion." The study was published in the Proceedings of the National Academy of Sciences (PNAS)

