

FEST students and robotic projects

FEST science students created robots for their final year projects. The projects were supervised by our experienced assistant professor Dr. Yoosuf Nizam. It is the aim of the faculty to produce innovative and interesting projects useful for the country. Over the past our students have produced several innovative projects ranging from dhivehi voice recognition, text to speech, detecting plants using machine learning.

Ahmed Ahsan developed a robot that can follow human movement. This robot can sense human movements and performs the same movement. This is developed using infrared sensors and mounted on an arduino board with a motor driver.

Ahmed Ahsan's robot is capable of moving along a black line, This robot can detect a black line and can move along the same line.

A robotic arm with a gripper (end effector) built by Ibrahim Hamees can pick up simple objects. Aminath Seeza developed an air filter generator that can be used to extract energy from tidal currents. This model can be used as an alternative source of energy.

From the Dean's Desk



Welcome to the Maldives National University, Faculty of Engineering Science and Technology. Since the industrial revolution, engineers and scientists have been at the forefront of innovation and change in the world. Today, we face a dynamic, challenging world that calls for urgent solutions to balance both human needs and natural concerns. The demand for problem-solving leaders with engineering and computational proficiencies has never been greater.

In this faculty, we are educating scientists, computational professionals, architects to be tomorrow's problem-solving leaders through our innovative curricula and extra activities. Our qualified and experienced lecturers will engage students in a unique learning environment that will facilitate academic excellence and prepare students for future careers while they earn their degrees.

Please feel free to drop into our faculty and explore the courses we offer.



Marine Science Students visits B. Goidhoo on a field trip

Bachelor of Marine Science and Bachelor of Environmental Management students visited B.Goidhoo in the pursuit of understanding critical ecosystems in B.Goidhoo. Students assessed all environmentally sensitive ecosystems in Goidhoo to propose as Community Conserved Areas (CCAs). International Union for Conservation of Nature (IUCN) (2008) defines protected areas as “clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”.

There are a total of 72 protected areas in Maldives. These include dive sites, reefs, mangroves etc. Out of these, Baa Atoll Biosphere reserve is the only area protected by an international cooperation. Baa atoll was appointed as a UNESCO Biosphere reserve on 28th June 2011. The 9 core areas of the Baa atoll biosphere reserve are protected under the Maldives Environment Protection and Preservation Act's law number 4/93.

The research trip to B. Goidhoo was made to find a propose a suitable community conservation area for the community of the island to protect. Several ecological assessments were carried in 3 ecosystems of the island: mangrove, seagrass and coral reefs. In addition to this a social survey was also carried out to find the locals attitude.



Fisher Knowledge exercise conducted in R. Maduvari

Students studying Bachelor of Environmental management visited R. Madduvari. The purpose of this field trip was to obtain fisher knowledge. Knowledge of ocean resources is often learned through experience and accumulates with the amount of time spent in this environment.

Knowledge obtained from traditional fishers is most often associated with the fishermen's experience and the knowledge obtained by the fisherman learned over the years of being in the natural environment. This knowledge is known as traditional knowledge and is developed in a socio-cultural and geographical context and is passed over the years.

The traditional knowledge (TK) held by fishers and fishing communities is inextricably linked and influenced by evolving patterns of environmental change and associated resource use.

The study helped students understand various aspects of fisheries conducted in Madduvvari and in the North of Maldives generally. Key findings from the survey conducted in December 2021, include:

1. Fishermen in Madduvvari are very willing to share their fishing experiences to students.
2. Some of the very data deficient fisheries such as methods of picking sea cucumbers were identified through surveys.



3. Some exemplar methods of fishing activities and how fishermen have been adapting to changes that were faced over time with various natural and human induced changes.

4. Seasonal changes in catch data and various local environmental cues that fishermen are dependent on top of modern technology that is utilised.

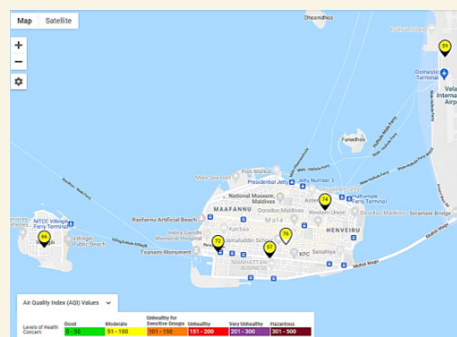
5. Fishermen's knowledge could also be used to inform policy.

Air quality measuring Project

FEST has started a research on measuring air quality in the Male' region. This is a research project funded by the US-Government. This project is led by Duke University in the United Kingdom and will go from September 2020 to September 2023.

The project aims to improve air quality and human health in South East Asia through capacity building with local governments for enhancing air quality monitoring and awareness. Under this project, Duke University and their partners across the US will provide technical assistance to develop and implement plans that will reduce fine-particulate air pollution (PM_{2.5}) to more healthy levels through a combination of low-cost satellite imagery and enhanced PM_{2.5} sensor networks, integrated with meteorological modeling and source apportionment in Bangladesh, India, Nepal, Sri Lanka, Bhutan and the Maldives.

To achieve this goal, the first objective is to deploy and maintain a network of 20 sensors across the Maldives that will determine PM_{2.5} concentrations at locations representative of industrial regions, major roadways, and populated urban areas. To this end the first batch of 6 sensors that was received so far have been indoor calibrated and four of them are deployed at the monitoring stations in the greater Male' region.



ᠰᠤᠨ ᠶ᠋ᠢᠨ ᠲᠣᠭᠦᠷ ᠵᠤᠯᠤᠰ ᠴᠣᠳᠤ ᠪᠡᠬᠡ

[illegible]

Երբեք չէի կարծիք ունեցել, որ իմ հայրը կհաջողվեր
 ինքնուրույն գտնել իր ճիշդ ուղիքը։ Ինչպես իմ հայրը,
 այնպես և ես, որի համար էլ ես եմ գրում այս գիրքը։
 Ես եմ հույս ունենում, որ այս գիրքը կօգտագործվի
 իմ հայրիկի և իմ մայրիկի համար, որոնք ինձ
 ունենում են իմ հայրիկի և իմ մայրիկի համար։
 Ես եմ հույս ունենում, որ այս գիրքը կօգտագործվի
 իմ հայրիկի և իմ մայրիկի համար, որոնք ինձ
 ունենում են իմ հայրիկի և իմ մայրիկի համար։
 Ես եմ հույս ունենում, որ այս գիրքը կօգտագործվի
 իմ հայրիկի և իմ մայրիկի համար, որոնք ինձ
 ունենում են իմ հայրիկի և իմ մայրիկի համար։

[illegible]