



Meital Peleg Mizrahi (center) and friends modeling sustainable fashion

Peleg Mizrahi, of TAU's Department of Public Policy, is advocating for a fashion industry makeover.

Peleg Mizrahi, an environmental justice researcher at

TAU and social entrepreneur, is a rising authority in Israel on making fashion—the world's second-most polluting industry—sustainable.

The process of manufacturing clothing emits over 40 billion tons of textile waste and 1.2 billion tons, or 10 percent, of greenhouse gases—the main driver of global warming. At the root of the industry's environmental footprint, Peleg Mizrahi explains, is the exploding "fast fashion" market of quickly and cheaply mass-produced garments.

Under the supervision of Knesset Member and TAU Prof. Alon Tal, Peleg Mizrahi's research explores ways to encourage economic regulation and

consumer behavior that promote sustainable fashion. Tal is one of

several TAU climate experts in prominent government roles, including zoology

AI is taking climate research to new frontiers... It offers a window into the future.

Prof. Noga Kronfeld-Schor, Chief Scientist at Israel's Environmental Protection Ministry.

In a recent project, Peleg Mizrahi gauged the prices at which consumers are more inclined to shop sustainably. In other studies, she demonstrated how new technologies and market behaviors spurred by COVID-19 can be transformed into climate solutions.



Prof. Hadas Mamane

"When we think of the climate crisis, we think of Australian wildfires, vanishing polar bears and droughts in Syria," she says. "The connection between these events and the clothes in our closets are usually overlooked; in fact, fashion is one of the most significant factors in dealing with the climate crisis."

* TAU: Hub for Regional Cooperation

TAU's location in the heart of the Middle East with proximity to Israel's diverse ecosystems contributes to its edge in leading regional climate initiatives.

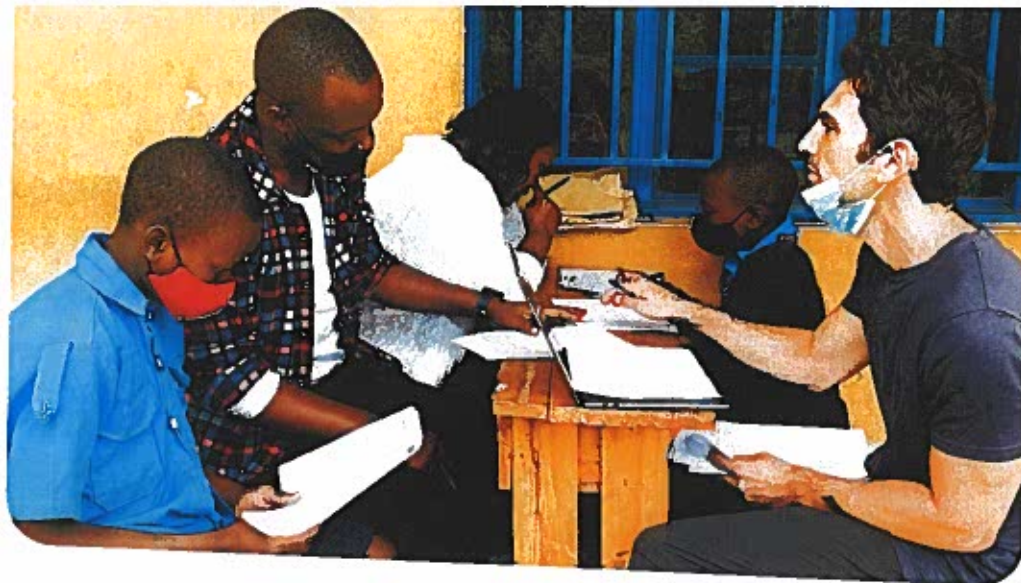
For example, to address trans-border water issues in the Middle East, TAU Prof. Hadas Mamane of the Fleischman Faculty of Engineering is eyeing cooperation opportunities with regional partners.

As floods, droughts and extreme weather intensify due to climate change, UNICEF estimates that by 2025, half of the world's population

will live in areas with water scarcity. Meanwhile,

Israel's chronic water shortage has necessitated the development of novel solutions.

Mamane heads the Water-Energy Laboratory. With the support of the Asper Clean Water Fund, her team develops efficient UV-LED lighting technologies that disinfect water using solar power, among other pursuits. The invention



TAU student David Shurman (right) conducts research on solar power in Rwanda through the NITSAN Sustainable Development Lab led by Dr. Ram Fishman and Prof. Hadas Mamane.

is suitable for use in remote areas with limited access to the chemicals and electricity used in traditional water decontamination.

Additionally, water monitoring tools developed by her lab are already used in India and Tanzania in several projects carried out with Dr. Ram Fishman of the Gordon Faculty of Social Sciences and Boris Mints Institute for Strategic Policy Solutions to Global Challenges.

"We are trying to help some of the world's most vulnerable populations access resources that should be afforded to them as part of their basic human rights," says Mamane.

Now, Mamane hopes to launch a project with the Palestinian Authority and the Arava Institute for Environmental Studies to purify and disinfect sewage water for unrestricted agricultural use, including crop cultivation.

In another regional partnership borne through the Abraham Accords, TAU's Moshe Mirilashvili Institute for Applied Water Studies, headed by Prof. Dror Avisar of the Porter School of the Environment and Earth Sciences, is involved in joint Israeli-UAE water research.

Enhancing Cross-Industry Impact

"The fastest way to make an impact on climate change is to apply academic knowledge toward

accelerating relevant industry capabilities," says Prof. Tamir Tuller of the Fleischman Faculty of Engineering and the Edmond J. Safra Center for Bioinformatics.

This is the approach that Tuller, head of TAU's Computational Systems and Synthetic Biology Laboratory, takes with his start-up Imagindairy where he is co-founder and Chief Scientific Officer. The company uses his genetic engineering techniques to produce affordable dairy products from yeast.

Imagindairy aims to generate milk that is identical in taste, aroma and texture to cow products, Tuller explains, but without the environmental damage or ethical dilemmas associated with animal husbandry.

Cattle alone are responsible for approximately 65 percent of the livestock sector's greenhouse gas emissions, mainly from methane that cows belch out while feeding.

"This type of technology could one day replace the need for dairy cows," he says. He adds that widespread adoption of lab-developed milk substitutes has the potential to significantly curb emissions. But how will Tuller's team get the public on board?

"Our models can eventually lead to products that are cheaper than traditional cow's milk," explains Tuller, underlining that economic incentive is key to impactful consumer behavior.

He expects Imagindairy's products to be commercially viable within a few



Imagindairy products