



The Aaron Frenkel Initiative to Combat Pollution

Harnessing Israeli technological ingenuity to counter the harmful effects of pollution across the Mediterranean and worldwide

The Urgent Need for Pollution Remediation R&D

The UN Environment Program has estimated that 650 million tons of sewage, 129,000 tons of mineral oil, 60,000 tons of mercury, 3,800 tons of lead and 36,000 tons of phosphates are dumped into the Mediterranean Sea each year. Moreover, up to one million tons of crude oil are discharged in the Mediterranean annually from accidental spills, illegal tank cleaning practices and inadequate harbor facilities. Combined with pollution from vehicles, deforestation and the acute drop in rainfall in the region in recent years, sea, air and land quality in the Mediterranean region is more at peril than ever before.

According to the World Health Organization (WHO), air pollution alone is responsible for one in nine deaths worldwide – or for approximately one third of deaths resulting from stroke, heart disease and lung cancer. When plastic waste ends up in the sea or rivers, it does not degrade; rather, it breaks down into increasingly smaller pieces until it looks like food to marine life. We then eat those fish who eat the plastic. Similarly, when pesticides used by farmers run off into rivers, they contaminate crops with toxic materials – which we then eat.

Clearly, solutions are urgently required that combine rigorous academic research with technological applications that can be widely used.

To accelerate the discovery and development of solutions and startups, Tel Aviv University (TAU) proposes launching an exciting project: ***The Aaron Frenkel Initiative to Combat Pollution***. The Initiative will create an unprecedented multidisciplinary hub for expert researchers to collaborate, work with local industry, gather innovative ideas for combating pollution and advance the most promising ideas toward commercialization as real-world anti-pollution technologies.

Frenkel Initiative to Combat Air Pollution/Noise Reduction

- The Initiative will pursue the following goals for country of Monaco and close vicinity:
- To design technology and implementation of electric/emission free cars, taxis, buses and other transport vehicles.
- To diminish pollution/emission of gases and environmental impact of ships/cruises,
- To reduce/eliminate of environmental impact of garbage contaminators, incinerators, litter and sewage transfers and storages,
- To design/project and implement of other ecological and environment friendly technologies,
- To generate new insights on sources and causes of pollution

- To discover and develop products for prevention and cleaning of pollution
- To promote collaboration between faculty, students and local start-up companies
- To assist with prevention and reduction of air, land and sea pollution;
- To concentrate on pragmatic solutions for all of the above issues and resolving all Initiative defined problems.

The Initiative will run on two tracks, as follows:

The Frenkel Research Fund

This Fund will support multidisciplinary basic and applied Research through the provision of grants to faculty and graduate students, and a range of multidisciplinary research directions.

The Frenkel Anti-Pollution Technologies Accelerator

This may support about 5 startup companies in related fields each year, grants and office space at the University, and guidance from industry experts.