

Environmental Bioengineering Laboratory



The mission of the Environmental Bioengineering Laboratory at **Porter School of Environmental and Earth Sciences** is to train scientists and engineers in the fundamentals of environmental bioengineering to bring the principles and tools of bioengineering to the forefront of **environmental and health sciences** in the benefit of the planet

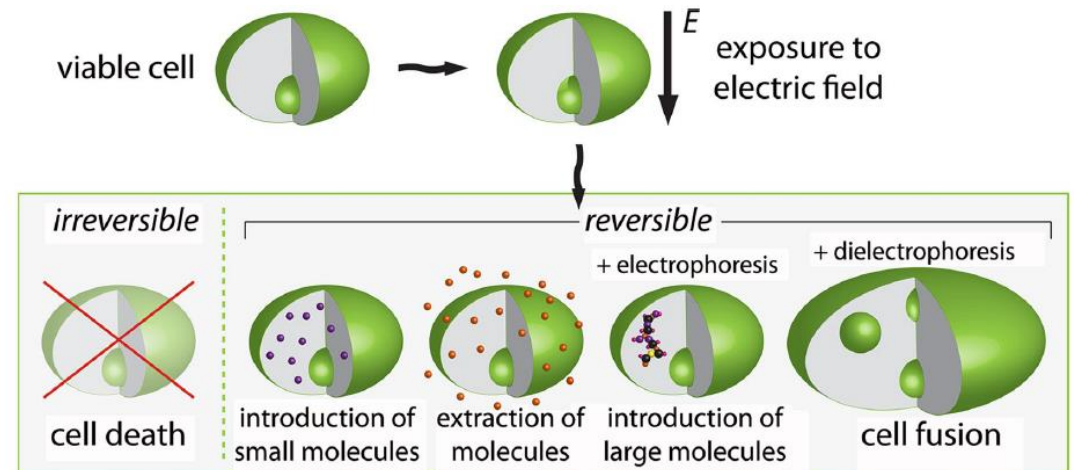
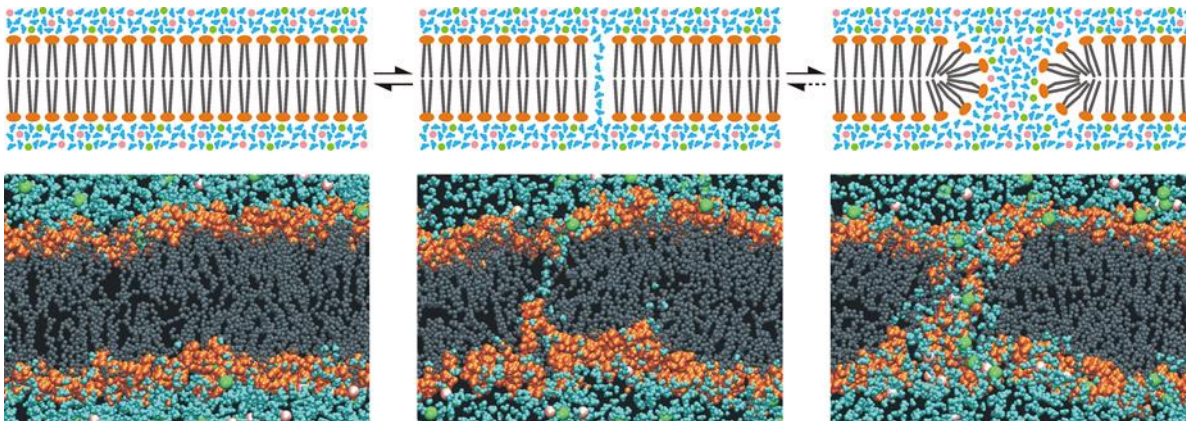
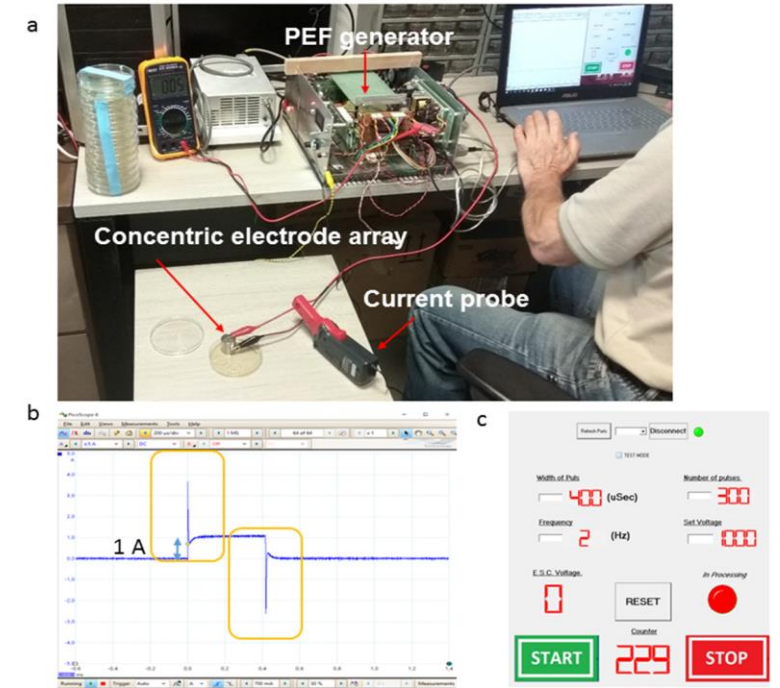
What is Environmental Bioengineering?

Science which goal is to advance fundamental understanding of how biological systems operate and to develop effective biology-based technologies for applications across a wide spectrum of societal needs including:

- Generating renewable energy
- Producing sustainable food
- Diagnosis, treatment, and prevention of pollutions
- Design of novel materials, devices, and processes
- Enhancing human environmental health

Interactions of electric fields with biological tissues

- We study biological cell membrane permeabilisation with pulsed electric fields and use this technology for application in medicine (scar reduction and cancer diagnostics) and environment (green processes for protein and other molecules extraction)



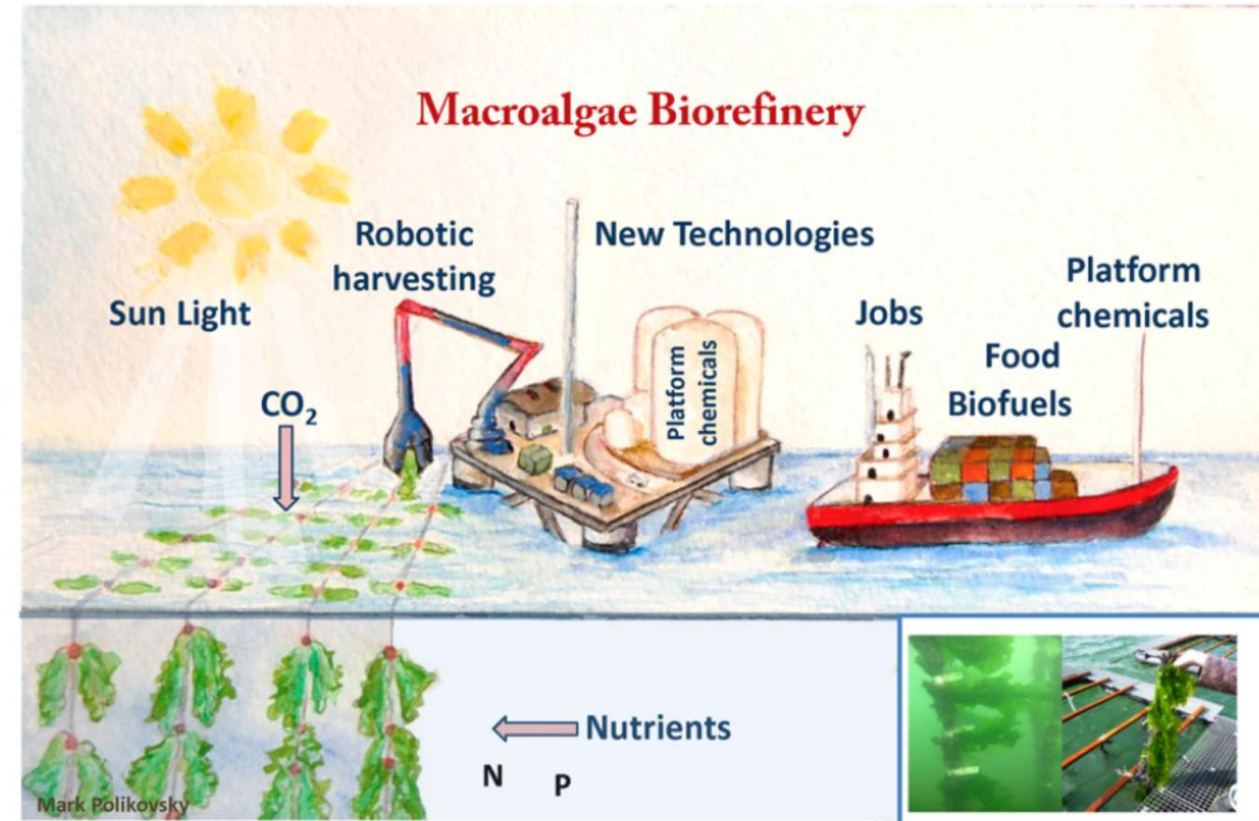
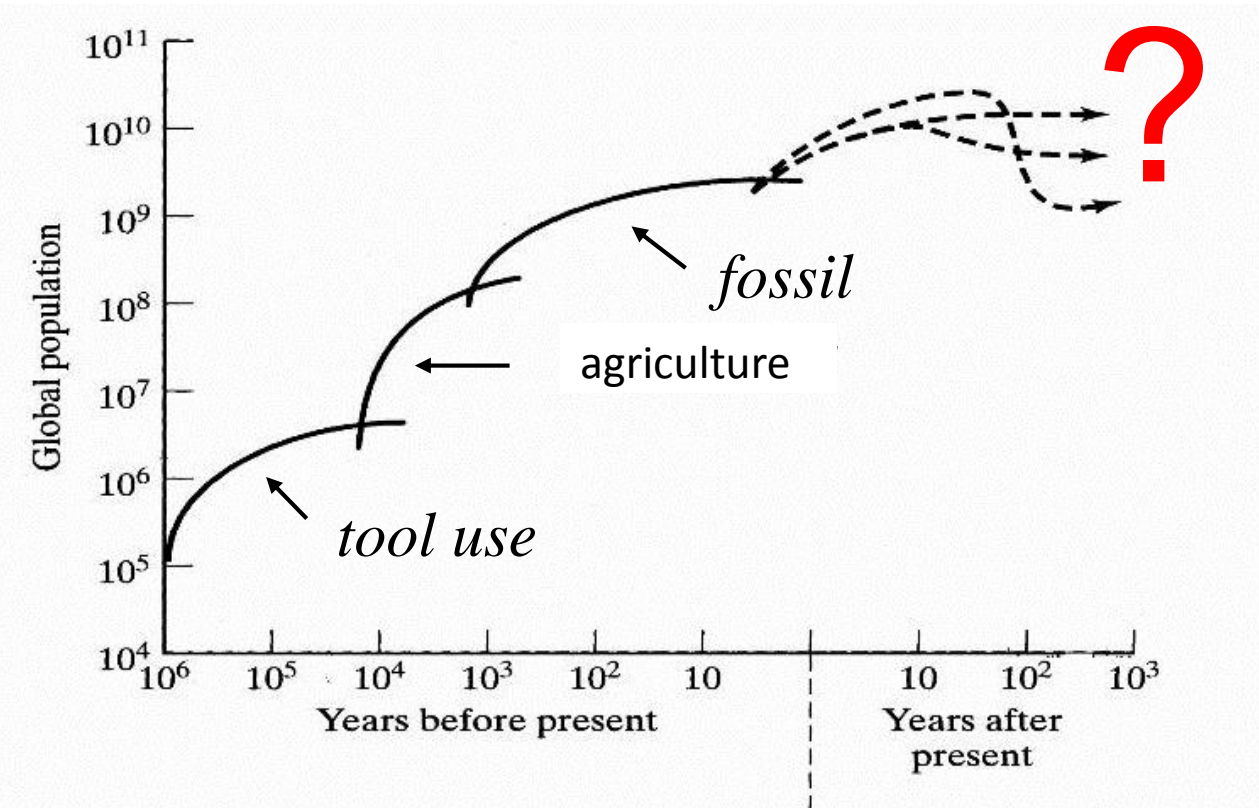
Climate change and skin health

- Skin exposure to sun leads to aging, sun damages and cancer
- We develop set of technologies and materials to prevent ageing
- We also develop technologies for rapid skin cancer diagnostics

The projects are joint with Meir Medical Center

Human population growth and innovation

We believe the next step can be offshore



New Proteins- Allergies

- We are looking at offshore produced seaweeds as a source of proteins
- But do they have allergies?
- Computational analysis, microfluidics and clinical trials.

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