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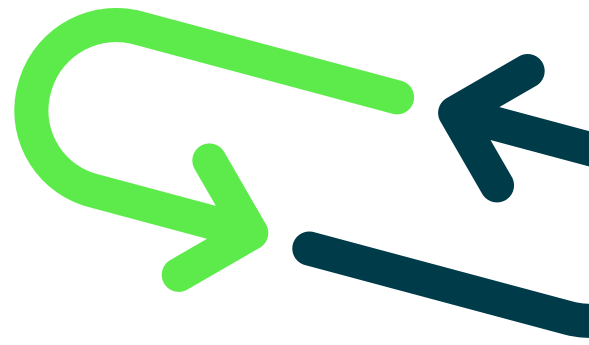
# Green careers guide

Dr Irene Sami Fahim  
Egypt



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## Egypt



### A promising industry from wasted wealth.

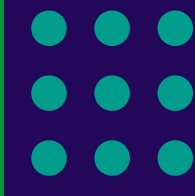
Egypt produces 20 million tons of solid waste annually, some of which is recycled or buried in landfills, much of which is piled up on roads, in water drains, or may even lie at the bottom of the sea. This is in short, the garbage and plastic waste disaster that requires years to decompose under the sun. The results are usually smaller pieces of micro plastic particles eaten by fish and marine organisms only to die suffocating or via bowel obstructions. Plastic forests surround us daily, from packing wrappers to disposable plates and cups; mountains of garbage produced and thrown in just a few minutes and that increase the scale of the environmental disaster. Despite global warnings and some national initiatives to restrict the use and circulation of disposable plastics, such efforts, unfortunately, are meagre in face of the multiplying daily production of plastic. However, offering biodegradable and environmentally friendly alternatives could offer hope for solving the problem, including an important study reported by news agencies in 2017 on the success of experiments at Nile University to produce plastic from shrimp shells'

Irene Sami Fahim, associate professor in the Industrial Engineering Department at Nile University, says her focus concern was to find alternatives to plastics that rely on natural sources rather than derivatives of fossil fuels. Over time, her interest in natural compounds that could be obtained from organic waste increased. Dr Irene did joint research work for years between Cairo and Nottingham, until she had the opportunity to carry out a joint study on plastic alternatives for Nile and Nottingham universities with the support of the Newton Mosharafa Fund, funded by the Egyptian and British governments. The success



of scientific experiments will pave the way for the manufacture and production of biodegradable bags, as a “green” alternative to plastics bags, and will contribute to prolonging the life span of food. “This approach to sustainable scientific solutions is one of our top priorities, especially as there are promising opportunities for the production and commercialization of such eco-friendly bags and innovative food packages that prolong the shelf life.

Dr Irene also participated in a grant entitled Covering Irrigation Cannels with Solar Cells funded by Misr El Kheir. She was responsible for optimizing the concrete mix in the model and taking measurements of pressure, strength permeability and slump testing. Irene is interested in studying the sustainability concept and she was a co-author of a book entitled “Sustainability and Innovation”, AUC press, 2015. Irene is a volunteer in IEEE Smart Village committee and active member in the organizing committee for IEEE Conferences such as IEEE Power Africa 2017, where Irene plans to extend the IEEE smart village committee in Egypt to supply solar electricity in poor villages. She is also one of the members in the Events Committee of the IEEE Humanitarian





Activities, 2018. She was also the technical chair for the first IEEE SIGHT Egypt ideation camp 2018.

Irene is currently doing research in several topics related to her Industrial and sustainable development practice such as

- Fabricating new bioplastic composite materials
- Fabricating green corrosion inhibitors
- Ergonomics assessment in industrial companies
- Green Energy in Construction, LEED and green building certification
- Establishing an integrated sustainable waste management model for agricultural waste
- Providing industrial solutions in work in process and inventory models in industrial companies
- Assessment of pharmaceutical residues and its removal from water masses

