

## Proposal for graduation project (2022-2023)

# Project Title Smart System for Fresh Farm Water Aquaculture Management

Supervisor(s): Dr. Nahla Zakzouk, *Dr. Rania Assem*

---

### Abstract:

Aquaculture is the science of cultivating aquatic organisms. Fish farming must be conducted in a structured and smart manner and should generate a competitive yield and quality through the engineering-based construction of modern, controlled ponds. In countries such as Egypt, its full potential has not yet been realised. This project aims to design a smart system for pond management in Freshwater Fish culture. The system continuously measures and controls a variety of hydro-biological parameters that affects the growth of fish with adequate monitoring and display.



### Project details.

The project will include a full fabrication of a prototype model for recirculatory Aquaculture system which will include the following features:

- Survey the biological factors required for fish and aquaculture and smart fish farming systems
- Biological and lab study of pond water and water analysis
- Design water recirculatory system for mechanical and biological filtration and removal of suspended matter and metabolites.
- Identifying the electrical system requirements for the smart system formation including sensors, actuators, controllers.....
- Fabrication of a mobile unit