## **Research Interest**

## Dr. Youssef Kassem

My research interest is divided into two branches

- 1- Use waste vegetable oils biodiesel to measure some thermo-physical biodiesel.
- 2- Design a solar-wind turbine farm to produce electricity in Cyprus.

In the first project is to measure some thermo-physical properties of biodiesel produced from frying oil and canola oil which are collected from cafe and restaurants such as viscosity, density, cloud point and pour point. Our current project is to model and predict these properties using empirical mathematical equations. This novel technique allows for predicting the biodiesel properties of biodiesel without needing experimental measurement.

In the second project, we are analyzing the renewable sources in Cyprus and finding the optimum place for creating a solar-wind farm to produce electricity. In order to find the optimum place and direction for the solar-wind turbine, we are using some statistical software for analyzing the data of solar and wind of the Cyprus's cities. These analyzing will allow us to know the maximum power can be produced and to design a solar-wind turbine farm for producing electricity in all cities in Cyprus.

In the third project, we are interested in developing and mathematical model using fuzzy logic and artificial intelligent for predicting biodiesel properties taken from literature and compare it with our experiments data.