

# World Bioenergy Congress and Expo

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## Can microalgae be alternative candidates for biodiesel production?

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Microalgae offers a great potential to produce oils for the biodiesel industry but the cost and feasibility require further investigation into finding fascinating species that have both a high lipid content and robustness in unusual growing conditions. The Egyptian environment is characterized by sunny weather throughout the year and the availability of different water sources are represented by the Mediterranean Sea and the Red Sea. In addition to this, there are many lakes and canals which can offer great opportunities for growing microalgae for different purposes. This presentation explains the characteristics of some microalgae species inhabiting the intertidal region of the Egyptian Red Sea shores between Quoseir and Marsa Alam cities in Egypt and verifies the validation of different suitable conditions in Nile red (NR) assay using green alga *Nannochloropsis salina* to detect and quantify intracellular lipids. In addition, it shows the ability of some species to grow under high temperatures (40°C) and visualizing the formed lipid vesicles inside algal cells using the confocal LSM510 laser microscope. The results revealed that there was an accumulation of these lipid bodies which is the backbone of biodiesel production as a response to temperature stress. Moreover, the molecular identification of the promised species was done.

### Biography

Khaled Nageh Mohammed Elsayed finished his Master's degree in Microbiology (Marine Science) at Faculty of Science, Beni-Suef University, Egypt. He got DAAD scholarship (Deutscher Akademischer Austauschdienst) for 4 years to study his PhD at Jacobs University Bremen, Germany.

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