

## A genetically tractable biological system for advance biofuel production

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The continuing rise in global prices of crude oil, increasing threats to the environment by exhaust emissions, global warming, and threats of supply instabilities have adversely impacted the developing countries, more so to the petroleum importing countries like Bangladesh. It is important to find a safe alternative fuel to relieve the escalating energy crisis and to protect the environment. Biodiesel is derived from the renewable sources, and it is biodegradable and safe for the environment. Biodiesel is biodegradable, less CO<sub>2</sub> and NO<sub>x</sub> emissions. Continuous use of petroleum sourced fuels is now widely recognized as unsustainable because of depleting supplies and the contribution of these fuels to the accumulation of carbon dioxide in the environment. Renewable, carbon neutral, transport fuels are necessary for environmental and economic sustainability. Algae have emerged as one of the most promising sources for biodiesel production. It can be inferred that algae grown in CO<sub>2</sub>-enriched air can be converted to oily substances. Such an approach can contribute to solve major problems of air pollution resulting from CO<sub>2</sub> evolution and future crisis due to a shortage of energy sources. The platform organism of choice is the green microalga, *Chlamydomonas reinhardtii*, based on the rationale that, unlike other proposed microalgal systems, its genome is completely sequenced and annotated, it has a well-characterized physiology, and it offers a mature, tractable genetic system and powerful genetic engineering tools.

### Biography

Dayanidhi Sarkar has completed his Ph.D. at the age of 31 years from Kyushu Institute of Technology, Japan and postdoctoral studies from Purdue University, USA. He is the Assistant Professor of Primeasia University, Dhaka, Bangladesh. He has published 4 papers in reputed journals.

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