...of dinosaurs and microbes

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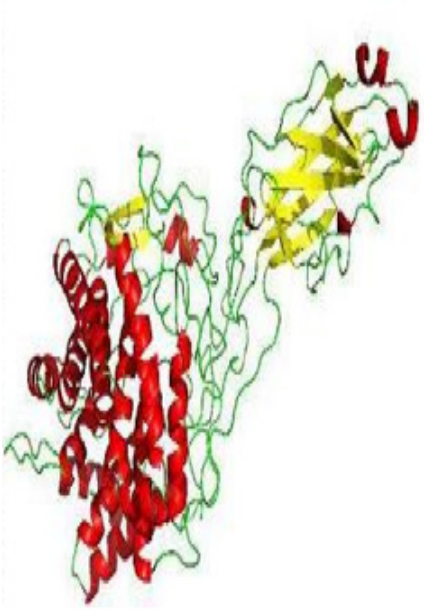

Microbes, the smallest form of living organism, and dinosaurs, the largest animals ever walked the surface of the Earth, seems like a strange combination for the title of an article. What do microbes and dinosaurs have in common?

Eons ago, dinosaurs ruled the earth. When they died, together with plants and other organisms from the carboniferous period, through a process that takes millions of years, turned into a substance so precious that we can't live without today, the fossil fuel. With the introduction of internal combustion engine, the energy locked inside the fossil fuel can be efficiently extracted for our daily needs, from transportation to manufacturing.

However, releasing carbons locked for millennia has a drawback. The large amount of carbon dioxide is released all at once, creating the global warming phenomenon. Scientists are now in the race to find new forms of energy which does not come with such a high ecological price.

Part of the answer might be found in microbes, the smallest living organism on earth. Microbes, by producing the enzyme cellulase, have the ability to transform energy stored in biomass into biofuel, a promising fuel for the new age. The main advantage is that the carbon locked in biomass is geologically recent, hence do not disrupt the natural carbon cycle the way fossil fuel does, which is the main cause for global warming. So where the fossil fuel from the age of dinosaurs stopped short, the microbes step in to potentially provide the much needed energy for the perpetuation of human civilization.

The artefact produced for this exhibition is an abstract interpretation of the molecular structure of cellulase, the enzyme responsible for unlocking the chemical energy in recently-locked carbon, making it possible to be used in internal combustion engine.

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