

# **CURRENT RESEARCH**

## From sunlight and CO2 in algae to products that address food and energy problems

Food and fuel together comprise 75% of the world's economy, and much of scientific research today focuses on harnessing new and reliable resources to ensure food and energy security. Substances created from photosynthesis make one of the most promising resources for the future. California Center for Algae Biotechnology (Cal-CAB) at the University of California, San Diego, uses algae to develop innovative, sustainable, and commercially viable solutions for the renewable production of food, energy, green chemistry, and bioproducts. Algae, photosynthetic but less explored than plants, serves as a great model for understanding photosynthesis, and demonstrates great potential for enabling new resources for not only food and energy but also for water remediation and conservation. To bring research into the marketplace and communicate its implications to the broader society, the Center collaborates with international research scientists in biology, chemistry, engineering, economics, and policy while training young students and educating the public.

Cal-CAB is directed by Dr. Stephen Mayfield who has studied algae for over three decades. Long before the price of fossil fuel increased and climate change surfaced as a global issue, he was realizing the potential of algae for photosynthetic biomanufacturing. The first product he made with his team were therapeutic proteins, and two years ago he developed potential malaria vaccines made in algae. Working across disciplines to realize the impact of research and find relevance within society, researchers at Cal-CAB are developing a new biomanufacturing platform to increase our food and energy production in efficient and novel ways, making great strides in analyzing algal...

#### **AFFILIATION**



University of California, San Diego

### **RESEARCH AREAS**

Environment, Clean Energy, Oceanic, Clean Energy

#### **FUNDING REQUEST**

UC San Diego's California Center for Algae Biotechnology runs on \$3M a year; but believes in solving many little problems as well. Donations will help fund 15 different labs continue background research on developing genetic tools. Bigger donations will help fund specific projects that could be propelled into the market and make a real difference in the society. Help expand the algae industry in providing energy solutions; fund Cal-CAB.

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