

## **Microalgae Zero Energy Farm for Bio fuel Production in Galicia**

Á. López Agüera<sup>1</sup>, M. Vázquez García<sup>1</sup>, V. Gándara Villadóniga<sup>1</sup> and I. Rodríguez Cabo<sup>1</sup>

<sup>1</sup> Sustainable Energetic Applications Group. Department of Particle Physics & Galician Institute of High Energy Physics. South Campus  
15702 Santiago de Compostela (Spain). Phone: +34 981 563100, fax: +34 981521091 ext.: 13974,  
E-mail: [a.lopez.aguera@usc.es](mailto:a.lopez.aguera@usc.es), [v.garcia.miguel@gmail.com](mailto:v.garcia.miguel@gmail.com)

### **Abstract**

Research turns to search new types of fuel that supply fossil fuels and reduce contamination like bio fuels in their multiple generations

Microalgae are the fuel source in the future. Galicia has excellent conditions for microalgae farm installations. A high efficiency in production process establishes a biodiesel production rate of 12 l/m<sup>2</sup>. Other sub products like hydrogen; biogas... will be used for factory energy saving for a zero energy design.

Experimental works will establish the basis for a high production algae farm design for biodiesel and derivatives bio fuels for local markets. The main aim is evaluating both algae and microalgae for obtain high yields in bio fuel production potential in Galicia.

Complementary R&D projects like hydrogen production and biodiesel from fish waste will be developed in the future.

The differential fact of the project is double: The production and drying process will be sustainable (energy zero factory) and the bio fuel production will be diversified. The crossed exploitation ensures the highest efficiency.

Algae zero farm will be a pioneer project in Galicia