

Dr. Giuseppe Torzillo (Italian and Costa Rican nationalities)

Education and Scientific career

- 1) Degree in Agriculture with first-class honors from the University of Florence (1978).
- 2) 40 years of research with the National Research Council of Italy (CNR);
- 3) 2016 -2018: Director of the Institute of Ecosystem Study of CNR;
- 4) Since 2019- Prof Emeritus at the University of Costa Rica (UCR) and Associated researcher at the Microalgal Laboratory (CIMAR, UCR)
- 5) Since 2019: Associated Researcher at the Institute of Bioeconomy (CNR)

Research field

Growth physiology and biotechnology of mass culture of photosynthetic microorganisms aimed at the production of biomass, protein, lipid (PUFA), pigments (phycocyanin), and wastewater treatment. He is a pioneer of mass culture in closed tubular systems. Since 2001, he has concentrated his research activity on photobiological hydrogen production with microalgae and cyanobacteria. Invited speaker and chairman at several international conferences dealing with algal Physiology and Biotechnology, Photosynthesis and stress, and Photobiological hydrogen production.

Main projects

- 1) He is the CNR group leader of the EU project **PhotosynthH2 (2022-2027)**. Photosynthetic electron focusing technology for direct efficient biohydrogen production from solar energy HORIZON- EIC.
- 2) 2017, CNR group leader of EU project **SABANA (2016-2020)**, Sustainable Integrated Algae Biorefinery for the production of bioactive compounds for agriculture and aquaculture;
- 3) Italian Member of the Committee of EU-COST (**EUALGAE, 2015-2018**)
- 3) CNR group leader of the EU Project “**Cyanofactory**”. Design, construction and demonstration of solar biofuel production using novel (photo)synthetic cell factories. Grant no. 308518. Theme Energy. **2012-2015**
- 4) **(2006-2009)**- Responsible for the research line “Development of a high-performance photobioreactor design for hydrogen production **Project Hydrobio** (<http://www.idrobio.net>), Fondo Integrativo Speciale per la Ricerca (FSR), supported by the Italian Ministry of Education (MIUR);
- 5) Group leader of the project **EBH2: Electro-Bio-Idrogeno**, supported by Tuscany Region (Italy); **2007-2009**

Publications

He has published about 200 scientific articles, more than 120 papers in international peer-reviewed journals, 20 chapters dealing with photosynthetic microorganism applications, and edited a book on photobiological hydrogen production.

<https://www.google.com/search?q=giuseppe+torzillo>.

Patents

- 1) He has patented two photobioreactor designs for outdoor microalgae culture;
- 2) A process to treat olive mill wastewater;
- 3) A process to attain analytical grade phycocyanin from *Arthrospira platensis*