



Project: „Microalgae for high-value products”

Funding organization: America for Bulgaria Foundation

Duration: 2 years (2016-2018)

Partners:

1. AgroBioInstitute, Sofia (Coordinator); Project leader: Dr Petya Stoykova;
2. Department of Botany, Faculty of Biology, Sofia University; leader Prof. Maya Stoyneva;
3. University of Chemical Technology and Metallurgy, Sofia; leader Dr V. Toteva;
4. Texas A&M University, USA; mentors Prof. Z. Nikolov, Prof. S. Capareda, Prof. A. Quigg;
5. “Bioinnovative” company.

Microalgae have a number of various practical applications and market demands are continuously increasing, especially in the field of biologically active natural compounds and/or food ingredients. The project aims to develop novel microalgae-derived protein products from widely cultivated industrial strains that will be of interest to food, pharmaceutical and cosmetic industry, and their production at affordable price. To achieve this goal, main priority will be given to investigation of various pathways for establishment of cost-efficient final product by: (1) optimization of standard methodologies in key steps of the process – (a) cultivation of microalgal biomass, (b) efficient cell disruption procedures, (c) extraction and purification of proteins; (2) utilization of the residual microalgal biomass and evaluation of the applicability of such technology – (a) co-extraction of lipid compounds from the residual biomass after protein extraction, (b) thermochemical conversion of the residual biomass and production of bioenergy

sources and other products. Additionally, tasks related to optimized cultivation and molecular characterization of poorly investigated microalgal strains, isolated from Bulgarian habitats, are also included in the program of the project. By development of this project generation of results directly related to practice and of real use for stakeholder companies and entrepreneurs is envisaged. In a long-term prospect active mutual cooperation between the project partners with stakeholder entities from the private sector, as well as with other academic institutions is foreseen.