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Scientific Report

on the Workshop "Ultrafast Processes in Photosynthesis. New Vistas at ELI-ALPS", and on the Advanced Training School of the PHOTOTECH: Biosensors and Biochips COST action (TD1102) "Advanced Laser Spectroscopy in Green Phototechnology" (October 18-21, and October 18-23, 2014, Szeged, Hungary)

(http://conferences.brc.hu/)

The Workshop, with lectures by 39 internationally renown scientists and selected young researchers, arriving from 15 countries, focused on ultrafast processes and structural dynamics in natural and artificial photosynthetic materials and on new possibilities to be explored at the European large facility, ELI-ALPS, which is under construction in Szeged The Training School, in addition to the lectures and poster presentations of the Workshop and a session of for short oral presentations of the COST Awardee Early Stage Researchers (ESRs) also offered a set of hands-on practical demonstrations on ultrafast processes and structural dynamics in natural and artificial photosynthetic and photophysical systems. COST Awardees, 25 ESRs from 13 countries, were requested to choose to participate in three out of the five half-day-long practicals with five ESRs in each lab at the Szeged University (SZTE) and the Biological Research Center (BRC) of the Hungarian Academy of Sciences. The practicals, hands-on experiments – supervised by expert scientists and led by experienced young researchers of the host institutes – focused on steady state and ultrafast spectroscopy of photosynthetic antenna and reaction center complexes and of other photobiological materials, as well as on protein-based photoelectric and integrated photo-optical systems.

The Workshop and the School provided deeper insights into structure/function/dynamics relationships of photosynthetic macromolecular assemblies either light harvesting complexes or reaction centers. Particular emphasis was dedicated to our understanding of the high efficiency of light-conversion routes occurring in femto-attosecond timescales, and to the newly developed *ultrafast* technologies necessary to unravel their dynamics. In this context, this School revealed a very useful tool for early stage researchers approaching the goal to design and realize novel photochemical biohybrids for biosensing and bioenergy production.

Together with the invited speakers, COST Awardees, chairpersons, teachers of the practical demonstrations we had 105 registered participants. In addition, the lectures were attended by a number of scientists and ESRs from the SZTE and the BRC.

The Meeting has received substantial attention in the media.

Szeged, November 19, 2014

Attachments:

- List of registered participants
- Program and Book of Abstracts – including the Syllabuses of the Practicals (pdf)
- Some photos and links

Győző Garab
Chair of the Organizing Committee