COST Action TD1104 Training Schools – Report on EBTT held on November 15 – 21, 2015 in Ljubljana

During the 1st World Congress the members of the Core group of our COST Action were actively seeking feedback from individual participants at the COST stand. In interaction with participants several items were recognized as positive – one of them being organization of training schools. Following the example and based on the experience of the Electroporation Based Technologies and Treatments school in Ljubljana, which is being organized already since 2003, we decided during the WG2 meeting in Salerno in 2012 to start a similar school also in the area of food applications. Based on this decision, the school on PEF for Food Processing was thus organised in Zaragoza in 2014, in Salerno in 2015, and is organised in Dublin in March 21 – 24, 2016. People working in the food area based on interviews consider the preparation of a school on food applications as one of the main successes of the Action. Altogether during the COST Action we have organized nine training schools. It is important that we seek opportunities to continue the organization of these schools also after the official ending of the COST Action. The next EBTT is planned to be held in November 2016 in Ljubljana, and we hope to be able to announce the next PEF for Food Processing school during the Dublin school!

International scientific workshop and postgraduate course *Electroporation Based Technologies and Treatments* is intended both for novices and experts in electroporation, including PhD students, researchers, and users. This year it was attended by 68 participants from 19 countries. According to the words of attendees, this course was a real platform to learn, extend, confirm, and develop the knowledge on electroporation mechanisms and applications.

The topics covered were electrical properties of cells and tissues in the electric field, physical chemistry of membrane electroporation, electroporation *in vitro* and *in vivo*, development of devices and electrodes, electrochemotherapy of tumours, and applications of electroporation in gene transfection. In scope of these topics invited lecturers presented state of the art results in their field. This year, Mounir Tarek presented molecular dynamics simulations of lipid bilayer electroporation, Pouyan Boukany showed non-endocytic delivery of biomolecules and nano-particles by electroporation, Julie Gehl presented electrochemotherapy in clinical practice, Antoni Ivorra gave a lecture on electrical bioimpedance and electroporation, Henry Jäger presented pulsed electric field applications in food processing – equipment design and matrix properties, and Rodney P. O’Connor showed multiphoton imaging with optogenetics tools to assess bioelectric effects in vivo.

The morning lectures were vital to get all the theoretical knowledge, while in the afternoon the attendees were invited into laboratories to participate at practical work sessions. In the evening, the get together dinners or social events were organised to strengthen the relations between researchers on electroporation.

The lectures of the course, with video of the speaker synchronised with the PPT presentation, are available for COST TD1104 members in the repository (enter via [http://www.electroporation.net](http://www.electroporation.net)).

**Forthcoming activities**

**School on PEF for Food Processing**
Dublin, March 21 – 24, 2016
[http://foodpefschool.ucd.ie/](http://foodpefschool.ucd.ie/)

**1st Veterinary Workshop on Electroporation-based Treatments**
Ljubljana, May 19 – 20, 2016
[http://goo.gl/Wmm0Rl](http://goo.gl/Wmm0Rl)