School on Applications of PEF for Food Processing

Salerno, February 7-12, 2015

The second edition of the Training School on Applications of Pulsed Electric Fields (PEF) for Food Processing was organized in the framework of the Cost Action TD1104 by ProdAI S.c.a.r.l. in collaboration with the University of Salerno.

The six-day event was held at the University of Salerno (Italy) on February 7-12, 2015 (www.prodalricerche.it/PEFSchool).

The objective of the School was to offer to students, researchers, and industrial staff the opportunity to improve their knowledge of the fundamentals of PEF technology for food processing through theoretical lectures by the leading PEF/electroporation experts, as well as via practical, hands-on experiences on the utilization of PEF for food and vegetable tissue treatment.

The lectures covered the following five topics:

- Fundamentals;
- Techniques and methodology for research in PEF technology;
- Effects of PEF and other technologies in food processing;
- Insights into non-food PEF applications;
- and Practical aspects and applications of PEF for the food industry.

The opening lecture was given by prof. Dietrich Knorr of the Technical University of Berlin (Germany) on “Non-thermal processes in food industry”, and the closing lecture was given by prof. Micha Peleg of the University of Massachusetts (USA) on “Kinetics of microbial inactivation by PEF”. The trainees presented their work in form of short oral presentations and during the poster sessions.
The proceedings of the PEF School 2015 and the presentations of the lectures are available on-line in the private section of the website www.electroporation.net.

The program included a modelling and practical training session during which the trainees carried out experimental activities on:

• PEF pasteurization of fruit juices;
• PEF-assisted expression of juices;
• and PEF-assisted extraction of bioactive compounds from food wastes.

The practical work was actively involving all participants and promoted the interaction between researchers of different backgrounds.

The program also included social activities, a visit to a cultural heritage site, an evening of singing and dancing, and possibilities to taste the local foods on several occasions.

The School was attended by 18 lecturers and 30 trainees, coming from both academia as well as industry, from 19 countries of four continents. Thirteen trainees received financial support from our COST Action in form of a travel grant.

The evaluation of the quality of the School was done by means of a customer satisfaction analysis, with the purpose of pooling suggestions for eventual future modifications and improvements of the program. The training course and the results attained were evaluated as “extremely good” and “very good”. The participants suggested that the duration of the School should be prolonged with more intensive practical work in the laboratories. The report of the customer satisfaction analysis is available at the website www.prodalricerche.it/PEFSchool.

I am grateful to all my co-workers for their enthusiasm and the work they dedicated to the organization of all events and the help provided to the participants, which made the experience a very positive one for all.

Due to the success of this second edition of the School on Applications of PEF for the Food Industry, the Scientific Committee has committed to plan future editions of the School. The next one is already scheduled for 2016, and will be organized by James Lyng at the University College Dublin, in Dublin, Ireland.