



Newsletter No. 56

The EBTT International Scientific Workshop and Postgraduate Course: Forced into a New Experience

Newsletter by: Peter Kramar and Damijan Miklavčič, University of Ljubljana, Slovenia

peter.kramar@fe.uni-lj.si; damijan.miklavcic@fe.uni-lj.si

Due to the COVID-19 situation, we were forced this year to organise the 14th International scientific workshop and postgraduate course Electroporation-Based Technologies and Treatments on-line. After discussion with faculty members and based on experience this year with numerous on-line meetings, we decided to adjust the format and extend the school over a three week period from November 16 to December 4, 2020. The schedule had to be adapted as we had participants from New Zealand with +12 hours and from USA with -8 hours time difference from Central Eastern European time! Attending the school from your home office also means it is not possible to focus on lectures for the entire day, as opposed to when staying in Ljubljana where one has dedicated time for the school entirely without interruptions. Not to mention the challenge of organising the lab works.

In foreseeing the possible situation and inability to travel to Ljubljana, we have pre-recorded lab works in the labs and prepared an on-line version of some of them starting with preparation already in August and September. We also decided to extend the duration to three weeks and to have early afternoon invited lectures live on-line, preceded by short presentations from participants. These served as a central meeting point for all of us to meet Monday to Wednesday/Thursday in the first two weeks. The core lectures were available at the participants' leisure from the selection of recorded lectures on EBTT 2019 on our e-learning platform. Faculty members were available for on-line discussion and sessions of Q&A via the e-learning platform. Thursdays and Fridays, we had lab works on-line in the mornings and afternoons so participants could choose their preferred time. The third week was reserved to review the recordings of lectures and study for the exam on the Friday of the third week, followed by the opening and eating of the chocolate. This year, we had to impose a limit on chocolate consumption to only 500 g per participant!

On regular days we met on-line from 14:30 until 16:00 CET starting with short presentations, followed by a lecture by one of the invited lecturers, and discussion at the end. Invited lecturers presented state of the art results in their field. Antoni Ivorra (University Pompeu Fabra, Barcelona, Spain), presented muscle contractions: avoiding them in electroporation treatments and inducing them with injectable microstimulators for movement restoration in paralysis, and Indrawati Oey (University of Otago, Dunedin, New Zealand) showed us the effect of Pulsed Electric Fields processing on plant-based foods.

Continued verso...



Newsletter Editor

Damijan Miklavčič
University of Ljubljana, Slovenia
damijan.miklavcic@fe.uni-lj.si

Newsletter Technical Editor and Website Administrator

Samo Mahnič-Kalamiza
University of Ljubljana, Slovenia
samo.mahnic-kalamiza@fe.uni-lj.si

Society Council Members

Lluis M. Mir, France
President

Javier Raso, Spain
President-Elect

Richard Heller, USA
Past President

Wolfgang Frey, Germany &
Rafael Davalos, USA
Officer: Engineering / Physical Sciences

Marie-Pierre Rols, France &
Maja Čemažar, Slovenia
Officer: Biological Sciences

Julie Gehl, Denmark
Officer: Medical Applications

Federico Gómez Galindo, Sweden
Officer: Food Applications

Eugène Vorobiev, France
Officer: Environment Applications

Giovanna Ferrari &
Matej Kranjc
Officer: At Large





...continued from previous page

Emanuela Signori (CNR & University of Rome, Rome, Italy) presented DNA immunization protocols by electrotransfer, while Gale L. Craviso (University of Nevada, Reno, NV, USA) gave a lecture on nanosecond electrical activation of adrenal chromaffin cells. François H. Cornelis (Sorbonne University, Hôpital Ten, Paris, France) shared his lecture with Olivier Seror and Leo Razakamanantsoa from France in presenting the applications of ECT and IRE in clinical practice.

Four days were reserved for the practical works, prepared by our members of the Laboratory of Biocybernetics from University of Ljubljana, Faculty of Electrical Engineering, Mounir Tarek from University Lorraine, Nancy, France, and Igor Serša from Institute Jožef Stefan, Ljubljana. The practical work was conducted using pre-recorded video clips in the laboratory, interactive quizzes, and assignments to complete the course. Computer modelling lab works were put on-line and conducted as an interactive lecture.

Although we were all sitting at our own computers, we did not forget to organise the standard EBTT social events. The bus excursion was of course organised as an on-line trip to Radovljica, prepared and guided by our regular tourist guide Sašo Golub. We also organised the traditional Gala dinner as a Do-it yourself Gala dinner under guidance of Michelin star chef Uroš Štefelin, from the Villa Podvin restaurant, where we customarily conclude the EBTT with the gala dinner. And even though the number of participants was not as numerous as it would be if we had actually visited the restaurant, we can assure you the dinner was superb, and has met the high standards and expectations. EBTT was completed by the Final exam and the chocolate – which was shipped in advance to all participants. Unfortunately, due to long distances and precautionary measures in some countries, not all got theirs in time, but some were resourceful enough to bring their own chocolate to the after exam on-line meeting.

This year the EBTT school was attended by 55 participants from 14 countries. According to the words of attendees, the course, even if on-line, still represents an excellent opportunity to learn, extend, confirm, and develop the knowledge on electroporation mechanisms and applications. We must admit it did not always go smoothly, and we had to overcome many technical challenges and glitches. We managed all of this with the excellent support of the multimedia team from the Faculty of Electrical Engineering, University of Ljubljana.

Most importantly, the event was not cancelled, and we were forced into acquiring a new experience. And even though we all hope we will be able to meet in person and conduct the school the old-fashioned way with rubbing our shoulders and sipping coffee together in front of posters, we are richer for this experience and ready to organise it thus again in 2021, if necessary. We would like to invite you to the next, 15th edition of the EBTT in Ljubljana on November 14 – 20, 2021; we sincerely hope to welcome you in the lecture room and in the labs. You will find more information during the following months on our web page www.ebtt.org. Registration will open in spring; reserve your seat before it will be too late!

Forthcoming events

4th World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine, and Food & Environmental Technologies

Copenhagen, September 19 – 23, 2021

<https://wc2021.electroporation.net>

Society Development Committee

Hidegori Akiyama, Japan
Xinhua Chen, China
Giovanna Ferrari, Italy
Wolfgang Frey, Germany
Julie Gehl, Denmark
Richard Heller, United States
Henry Jäger, Austria
Guillermo Marshall, Argentina
Damijan Miklavčič, Slovenia
Lluís M. Mir, France
Mihaela Moisescu, Romania
Indrawati Oey, New Zealand
Maria Rosaria Scarfi, Italy
P. Thomas Vernier, United States
Eung Jee Woo, South Korea



The obligatory chocolate consumption after the School.



The EBTT 2020 Social Event.

Newsletter is issued in electronic form only by The International Society for Electroporation-Based Technologies and Treatments (ISEBTT).

ISSN: 2463-9850

© 2016-2021 ISEBTT