



Newsletter No. 35

3rd World Congress on Electroporation and Pulsed Electric Fields; Toulouse, France, September 3 – 6, 2019

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The 3rd World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine, and Food & Environmental Technologies, will be held in Toulouse, France, September 3 – 6.

In addition to the eleven plenary lectures of leading specialists, described in the previous Newsletter, the scientific programme will offer seventeen special sessions, including:

- **Symposium on Bio and Food Electrotechnologies (BFE);**
Recent advances in the field of alternative and emerging bio and food electrotechnologies (pulsed electric fields, plasma, arc-discharge, ohmic heating, microwave, ultrasound, other electrotechnologies and combined treatments) will be presented. *Organisers Eugène Vorobiev, Nabil Grimi, Nadia Boussetta, Farid Chemat.*
- **Cardiac Electroporation: The Past, the Present and the Future;**
This session will provide a critical update and provide an overview of the most recent clinical and preclinical cardiac outcomes, explore critical research challenges, and identify ongoing work to advance the field. *Organisers Samuel Asirvatham, Antoni Ivora, Elad Maor, Alan Sugrue and Damijan Miklavčič.*
- **Electrical Characterization of Cells/Tissues Exposed to Microsecond and Nanosecond Pulsed Electric Fields for a Reliable Dosimetry of Electroporation;**
The use of impedance spectroscopy, dielectric and interferometric measurements, in bulk or under lab-on-chip configurations will be presented and discussed as new approaches to characterize cells/tissues after their exposure to electric pulses. *Organisers Caterina Merla and Lluís M. Mir.*
- **The Use of Electroporation in Veterinary Oncology;**
Report on new technological advancements, therapeutic approaches and reporting clinical data on electrochemotherapy, irreversible electroporation, and DNA vaccination. *Organisers Nataša Tozon, Gregor Serša and Maja Čemažar.*
- **Techniques and Application of Irreversible Electroporation for Soft Tissue Ablation;**
This session will explore different approaches to using the principles of IRE for tissue ablation, with potential clinical applications. *Organisers Govindarajan Srimathveeravalli and Rafael Davalos.*
- **New Mechanisms and Strategies for Improving Electrotransfection;**
This special session will be focussed on innovative research for improving the efficiency of electrotransfection while preserving cell viability. *Organiser F. Yuan.*
- **New Insights on the Extraction of Value Compounds from Microbial Cells Assisted by Electrotechnologies;**
This special session will present the latest advances on application of electrotechnologies for obtaining a more efficient and sustainable extraction of valuable compounds from yeast and microalgae biomass. *Organisers J. Raso and W. Frey.*



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- MURI/AFSOR Workshop on Bipolar Cancellation of Nanosecond Pulse Stimulation and Electroporation: From Mechanisms to Applications;
Latest research on molecular and cellular mechanisms underlying nsPEF stimulation and bipolar cancellation, including fundamental research, engineering, and modelling. *Organiser Andrei Pakhomov.*
- Calcium Electroporation;
Calcium electroporation as a new and highly promising aspect of electroporation-based therapies. Preclinical studies as well as clinical studies and the mechanisms of action involved. *Organisers Julie Gehl and Stine Krog Frandsen.*
- Contactless and Targeted Cell Membrane Permeabilization: PEMF and Near Field Radiation & Nanoparticles for Local Enhancement of Electric Field;
This session will explore the phenomenon of cell membrane permeabilization using contactless and/or targeted approaches including contactless approaches, such as pulsed electromagnetic fields and antennas for delivering sub-nanosecond pulses to targeted cells as well as nanoparticles. *Organisers Matej Kranjc and Tomas Garcia-Sanchez.*
- Electroporation in Immuno-Oncology;
The session will be focussed on therapeutic strategies and will explore their influence on the immune system response against cancer. *Organisers Emanuela Signori, Maja Čemažar and Richard Heller.*
- Education and Training on Electroporation;
Exchange experience and ideas concerning schools/workshops that are organized regularly around the world on electroporation in different disciplines will be presented and discussed. *Organisers J. Raso and D. Miklavčič.*
- ERA-NET Susfood 2 Session Based on The MEFPROC Project;
Results obtained in MEFPROC project on the use of moderate electric field in heat processing, solid, and liquid foods. *Organiser J. Lyng.*

Additional information concerning all the sessions is available on the website. We have already received 318 abstracts, and are **now accepting late abstract submissions!** Please visit wc2019.electroporation.net.

The 3rd World Congress is one of the most important activities of the ISEBTT which attracts participants from around the World. Based on main themes, the congress offers technical programmes, special sessions, oral and poster presentations, plenary sessions and social events. This congress is the place to meet together, exchange experiences, seek advice and get inspired people from different disciplines who are involved in a basic research or are developing novel and emerging applications based on the use of pulsed electric field.

Forthcoming events

6th School on Pulsed Electric Field Applications in Food and Biotechnology

Cesena, June 3 – 7, 2019

<http://pefschool2019.electroporation.net>

Electroporation-Based Technologies and Treatments

Ljubljana, November 10 – 16, 2019

<http://2019.ebtt.org>

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