

## Introduction to Third Special Electroporation-Based Technologies and Treatments Issue

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We are pleased to introduce this third special electroporation-based technologies and treatments issue of the *Journal of Membrane Biology*. Readers will find here reports of recent developments in the field of electroporation that were presented and discussed during the 6th International Workshop and Postgraduate Course on “Electroporation-Based Technologies and Treatments” (EBTT 2012) held in Ljubljana, November 18–24, 2012. Participants included seven faculty members, eight lecturers who are recognized researchers in the field, 17 young scientists and clinicians, and 32 students—altogether 64 participants coming from 13 different countries. Once again colleagues from the Laboratory of Biocybernetics of the Faculty of Electrical Engineering at the University of Ljubljana conducted practical training exercises during the afternoons—a unique opportunity for hands-on experience guided by experts. This school is now an established platform for learning, extending, and consolidating knowledge of electroporation mechanisms and applications.

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The field of cell and membrane electroporation—theoretical studies, laboratory experiments, and clinical and industrial applications—continues to grow and expand. Electroporation is now performed *in silico* (molecular dynamics and numerical simulations), with artificial membrane systems, in cultured cells, in animal and plant tissues, and in whole organisms. The importance of electroporation, in research and in biotechnological, medical, and industrial applications, was recognized in 2012 when 22 countries signed a Memorandum of Understanding to participate in a COST action at the European level (COST TD 1104 “European network for development of electroporation-based technologies and treatments”) (Miklavcic 2012). In the year that has passed since launching, this EU Action (<http://www.electroporation.net/>) has gathered 445 participants from 150 institutions in 32 countries, with the EBTT meeting as one of its many activities.

The peer-reviewed selection of articles presented in this dedicated issue offers a wide-ranging view of the various aspects of current research in the field of cell electroporation. We wish to thank all the contributors for their efforts in presenting their recent results to the journal’s readers who, whether new or old in the field, will find new data and interesting ideas in this special issue.

We would especially like to express our sincere thanks to our scientific colleagues, to the reviewers, to the agencies sponsoring our research, in particular to the Slovenian Research Agency and the Centre National de la Recherche Scientifique (CNRS), and to the Bioelectrochemical Society which has sponsored the school from its very beginning. We also would like to thank BIA Separations (Slovenia), Bio-Rad Laboratories (USA), C3M (Slovenia), IGEA (Italy), Iskra Medical (Slovenia), Kemomed (Slovenia), Mediline (Slovenia) and Profector (Ireland), whose financial support allowed us to assist many

participating students by waiving their fee or providing them with lodging. The Bioelectromagnetics Society (BEMS) and the European Bioelectromagnetics Association (EBEA) have also contributed by providing travel grants and partial coverage of tuition fees for their student members. The workshop and postgraduate course was conducted within the scope of the European Associated Laboratory on Pulsed Electric Fields Applications in Biology and Medicine (LEA EBAM).

COST—European Cooperation in Science and Technology is an intergovernmental framework aimed at facilitating the collaboration and networking of scientists and researchers at the European level. It was established in 1971 by 19 member countries and currently includes 35 member countries across Europe, with Israel as a cooperating state. COST funds pan-European, bottom-up networks of scientists and researchers across all science and technology fields. These networks, called ‘COST Actions’, promote international coordination of nationally-funded research. By fostering the networking of researchers at an international level, COST enables break-through scientific developments leading to new concepts and products, thereby contributing to strengthening Europe’s research and innovation capacities.

COST’s mission focuses in particular on:

- Building capacity by connecting high quality scientific communities throughout Europe and worldwide;
- Providing networking opportunities for early career investigators;
- Increasing the impact of research on policy makers, regulatory bodies and national decision makers as well as the private sector.

Through its inclusiveness, COST supports the integration of research communities, leverages national research investments and addresses issues of global relevance. Every year thousands of European scientists benefit from being involved in COST actions, allowing the pooling of national research funding to achieve common goals. As a precursor of advanced multidisciplinary research, COST anticipates and complements the activities of EU Framework Programs, constituting a “bridge” towards the

scientific communities of emerging countries. In particular, COST actions are also open to participation by non-European scientists coming from neighbor countries (for example Albania, Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Jordan, Lebanon, Libya, Moldova, Montenegro, Morocco, the Palestinian Authority, Russia, Syria, Tunisia and Ukraine) and from a number of international partner countries. COST’s budget for networking activities has traditionally been provided by successive EU RTD Framework Programs. COST is currently executed by the European Science Foundation (ESF) through the COST Office on a mandate by the European Commission, and the framework is governed by a Committee of Senior Officials (CSO) representing all its 35 member countries.

More information about COST is available at <http://www.cost.eu/>.



## Reference

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