

«ETTORE MAJORANA» FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE INTERNATIONAL SCHOOL ON BIOELECTROMAGNETISM «ALESSANDRO CHIABRERA»

 ${\it 11^{th}\ Course: "Advances\ in\ Electroporation-Based\ The rapy: from\ Principles\ to\ Clinical}$ Applications"

Erice (Sicily, Italy): May 2 to 7, 2025

Directors of the Course: Micaela Liberti and Rafael Davalos

PROGRAM (25th April 2025)

DAY 1 - Friday, May 2nd

Theme: BASICS

Morning

09:00	Welcome to Participants and Brief Overview of The School	F. Bersani, M.R. Scarfi
09:20	Welcome fro <mark>m Bio</mark> EM S <mark>oc</mark> iety	A. Peyman, M. Liberti
09:25	Welcome from ISEBTT Society	Emanuela Signori
09:30	Introduction and Course Opening	R. Davalos, M. Liberti
09:40	An Introduction to the Pulsed Electric Fields Delivery: from Principles to Applications	Lluis M. Mir
10:40	COFFEE BREAK and Posters Hang up	
11:10	Biophysical Mechanisms of Electroporation at the Cellular and Molecular Level	Lea Rems

12:10 *LUNCH*

Afternoon

14:00	Reversible Effects of the Pulsed Electric Fields Delivery: What Happens to the Membranes?	Lluis M. Mir
14:30	Basics of Irreversible Electroporation in Tissue	Rafael Davalos
15:00	COFFEE BREAK	
15:30	Results of Cell Response for Transfection	Maja Cemazar
16:00	Electroporation: In Vitro and In Vivo Immune Response	Emanuela Signori
16:30	Delivery of Pulsed Electric Fields: a Platform Technology with Multiple Applications	Lluis M. Mir

Theme: ELECTRIC FIELD

Morning

09:00	Introduce the Day: Considerations for Electrode Design and Field Distribution for EP Therapy	Rafael Davalos
09:20	Electric Field Generators and Electrodes for Reversible Electroporation in Drug Diffusion	Micaela Liberti
09:50	Electric Field Generators and Electrodes for IRE and PFA	Edward Jacobs
10:20	COFFEE BREAK	
10:50	Collateral Effects of Electroporation: Heating, Electrochemical Reactions, and Electrical Stimulation	Antoni Ivorra
11:30	Electric Field Coupling and Modeling	Stefania Romeo

Secretariat of the Centre:

Via Guarnotta 26 - 91016 Erice, Italy – Tel. 0039.0923.869133 – Fax 0039.0923.869226 – E-mail: hq@ccsem.infn.it

Directors of the School:
Ferdinando Bersani, University of Bologna, Italy – E-mail: ferdinando.bersani@unibo.it
Maria Rosaria Scarfi, CNR-IREA, Naples, Italy – E-mail: scarfi.mr@irea.cnr.it

12:10 *LUNCH*

Afternoon

14:00	Impact of Protocol Parameters on the Efficacy of Electroporation	Roberta Fusco
14:40	COFFEE BREAK	
15:10	Liver Tumor Ablation by Electroporation: the Promising Role of Computational Science in the Operating Room	Clair Poignard
15:50	AI for Modeling and Treatment Planning	Edward Jacobs
16:30	Electric Pulse Generators and Electrodes for Gene Electrotransfer	Richard Heller

DAY 3 - Sunday, May 4th

Theme: LABWORK AND INTERACTIVE FORUM

09:00	Treatment Planning Strategies: Clinical Cases	Roberta Fusco
09:40	Labwork 1: Hands on – Electric Field Calculation on a Basic EP Configuration (by the use of Sim4Life Lite, Zurich MedTech)	Micaela Liberti
10:40	COFFEE BREAK —	
11:10	Labwork 2: Hands on – Electric Field Calculation on a Case Study (incorporating CT/MRI images) with Professional Software	Roberta Fusco

12:30 *LUNCH*

Afternoon

14:00	Labwork 3: Hands-On - Electroporation of Vegetable Tissue with Devices from Industry Sponsors	Roberta Fusco
15:30	COFFEE BREAK	
16:00	Industry Panel: State of the Art, Gaps and Challenges in Technological Development	All Speakers All Sponsors Moderator: R. Cadossi

DAY 4 – Monday, May 5th

Theme: CLINICS

Morning

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09:00	Introduce the Day: Different Clinical Applications, Main Results, and Emerging Issues	Gregor Sersa
10:00	Clinical Applications: ECT	Julie Gehl
11 <mark>:00</mark>	COFFEE BREAK	
11:30	Clinical Applications: GET (Gene Therapy)	Richard Heller
12:20	LINCH	

12:30 LUNCH

Afternoon

14:00	Students Posters and Discussion	Α
15:00	COFFEE BREAK	
15:30	Clinical Applications: Veterinary Oncology	Maja Cemazar
16:00	Clinical Applications: IRE	Fernando Burdio Aleksandar Radosevic
16:45	Electrochemotherapy: The Insp-ECT (International Network for Sharing practices on ECT) Experience	Giulia Bertino
17:25	Medical Experts Panel: Gaps and Challenges in Current Clinical Practice	ALL Speakers Moderator: J. Impellizeri

20:00 Course Dinner and Best Poster Award

DAY 5 - Tuesday, May 6th

Theme: FUTURE DIRECTIONS

Morning

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09:00	Clinical Applications in Treatment of Vascular Malformations	Gregor Sersa
09:30	Tumor Treatment: Clinical Experiences of Bone Metastasis at Vertebrae	Lluis M. Mir
10:00	Energy-Based Tumor Ablation and its Interplay with the Adaptive Immune Response	Qi Shao
10:45	COFFEE BREAK	
11:15	Combined Treatment of ECT and Immunotherapy through IL12 Electrogene Transfer in Veterinary	Maja Cemazar
11:45	Development of Novel Genetic Vaccine Platforms: from the Idea to GMP Production	Luigi Aurisicchio

12:30 LUNCH

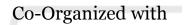
Free Afternoon with EXCURSION

DAY 6 - Wednesday, May 7th

Theme: CLOSING REMARKS and SUM-UP

Morning

09:00	State of the Art at 5^{th} World Congress Electroporation in Rome 2024	Francesca Apollonio
09:30	Overview of Recently Funded Research Programs	All Speakers
10:30	Survey	
11:00	Closing Remarks and Overview of EP Topics at Erice	F. Bersani, M.R. Scarfi





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