

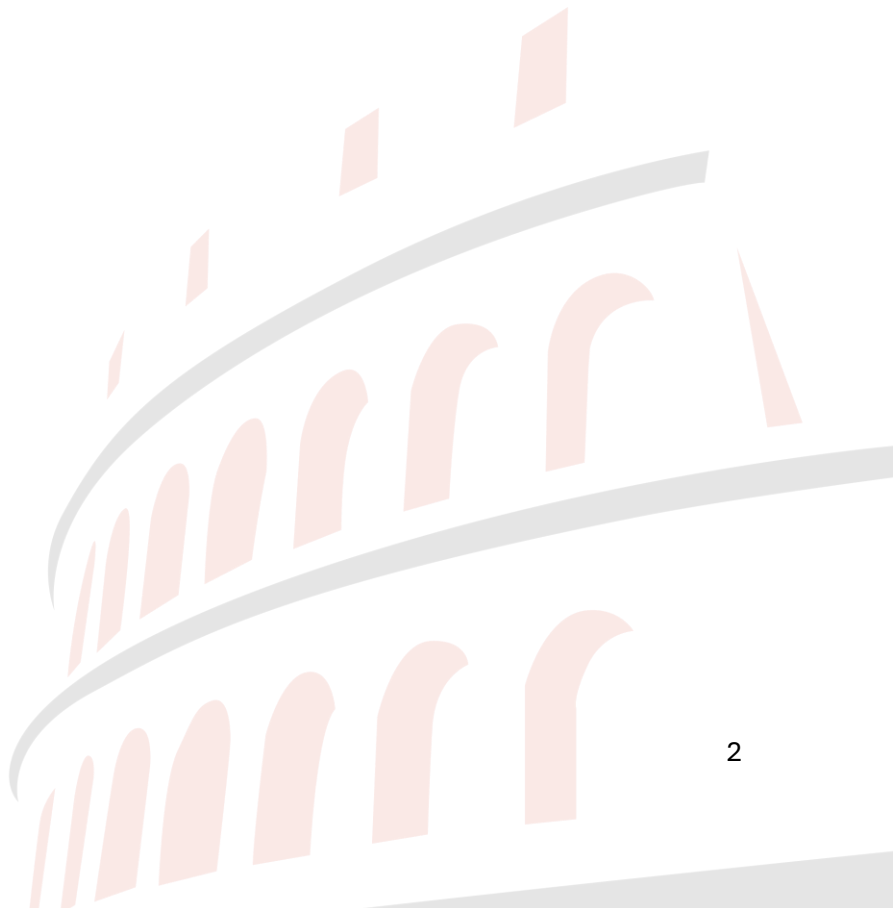
P R O G R A M M E



**5th World Congress on Electroporation
& Pulsed Electric Fields in Biology, Medicine
Food and Environmental Technologies**
Rome - Italy 15-19 September 2024

SAPIENZA UNIVERSITY OF ROME - FACULTY OF CIVIL AND INDUSTRIAL ENGINEERING







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5th World Congress on Electroporation & Pulsed Electric Fields in Biology, Medicine Food and Environmental Technologies

Rome, Italy

15-19 September 2024

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Welcome Notes

Dear Colleagues and Friends,

Welcome to the 5th World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine, Food, and Environmental Technologies!

We are thrilled to be part of this unique platform that brings together experts from diverse disciplines—biologists, medical professionals, engineers, and physicists—all united by a common goal: advancing the science of electroporation. This multidisciplinary approach is essential as we tackle critical challenges in areas such as cancer therapy, cardiovascular interventions, angiological malformations, DNA-based vaccines, and the development of innovative treatments. Beyond healthcare, our discussions will extend to pioneering applications in food technology, biotechnology, and environmental sustainability. Electroporation's versatile capabilities offer new ways to enhance food safety and processing, optimize biotechnological processes, and address environmental challenges, demonstrating its profound impact on creating a better, more sustainable future. By exploring these diverse applications, we aim to unlock the full potential of electroporation, advancing science and technology for the benefit of society and the planet.

This 5th edition brings several exciting features, including: i) the Industry Panel bridging the gap between academia and industry, with a focus on cardiac ablation using Pulsed Field Ablation; ii) the 3-Minute Thesis competition, where Ph.D. students present their thesis in three minutes in a clear and engaging way with the goal to enhance communication and presentation skills for a non-specialist audience; iii) the Senior2YS Meeting Corner, offering a unique opportunity for emerging researchers to connect with senior experts and industry leaders in the field of electroporation.

The Educational Session, now in its second edition, proves to be a valuable part of the conference; newcomers to the field may find prior to the Congress useful and worthwhile introduction to electroporation and pulsed field technology, given by great lecturers.

None of this would have been possible without the invaluable support of our sponsors, exhibitors, foundations, local and international committees, and, finally, the dedicated work of the scientific program committee. Each of these groups has played a crucial role in making this event a success. We are profoundly grateful for their support, that have made possible to realize all the initiatives and in particular the 34 Travel Awards for students and prizes for the best oral and poster presentations, recognizing outstanding work from both students and young scientists.

It goes without saying that we extend our gratitude to all participants for their contributions and enthusiasm. The future will undoubtedly benefit from the work done here, as well as the new ideas and collaborations that will emerge from this congress.

Welcome to Rome!

The Local Organizing Committee,

The Congress Chairs: Francesca Apollonio and Caterina Merla

General Information

Congress website

wc2024.electroporation.net

Congress venue

Faculty of Civil and Industrial Engineering
Sapienza University of Rome
Via Eudossiana 18, 00184 Rome, Italy

Congress Secretariat

Ega Worldwide congresses&events
Viale Tiziano 19, 00196 Rome, Italy
mail: secretariat.wce2024@ega.it

Badges

The congress name badges must be worn during the congress. Access to the congress will not be granted without a name badge issued by the congress secretariat.

Certificate of Attendance

A certificate of attendance will be sent to participants by email after the conference.

Information for speakers

Guidelines for oral and poster presentation are available to download from the congress web-site. **Important: personal laptops cannot be used for presentations.**

At the end of the congress, all presentations will be deleted to ensure that no copyright issues will arise.

Wi-Fi

Free access to the Wi-Fi at the congress venue is provided. Personal access code will be given to each participant.

Journal

We have made an agreement with **Bioelectricity**, the official ISEBTT journal, for a special issue dedicated to the conference, more information will be provided on the congress web-site.

Further special issues are foreseen nearly 6 months after the end of the conference and info will be provided to the congress presenters by email and on the congress web-site.

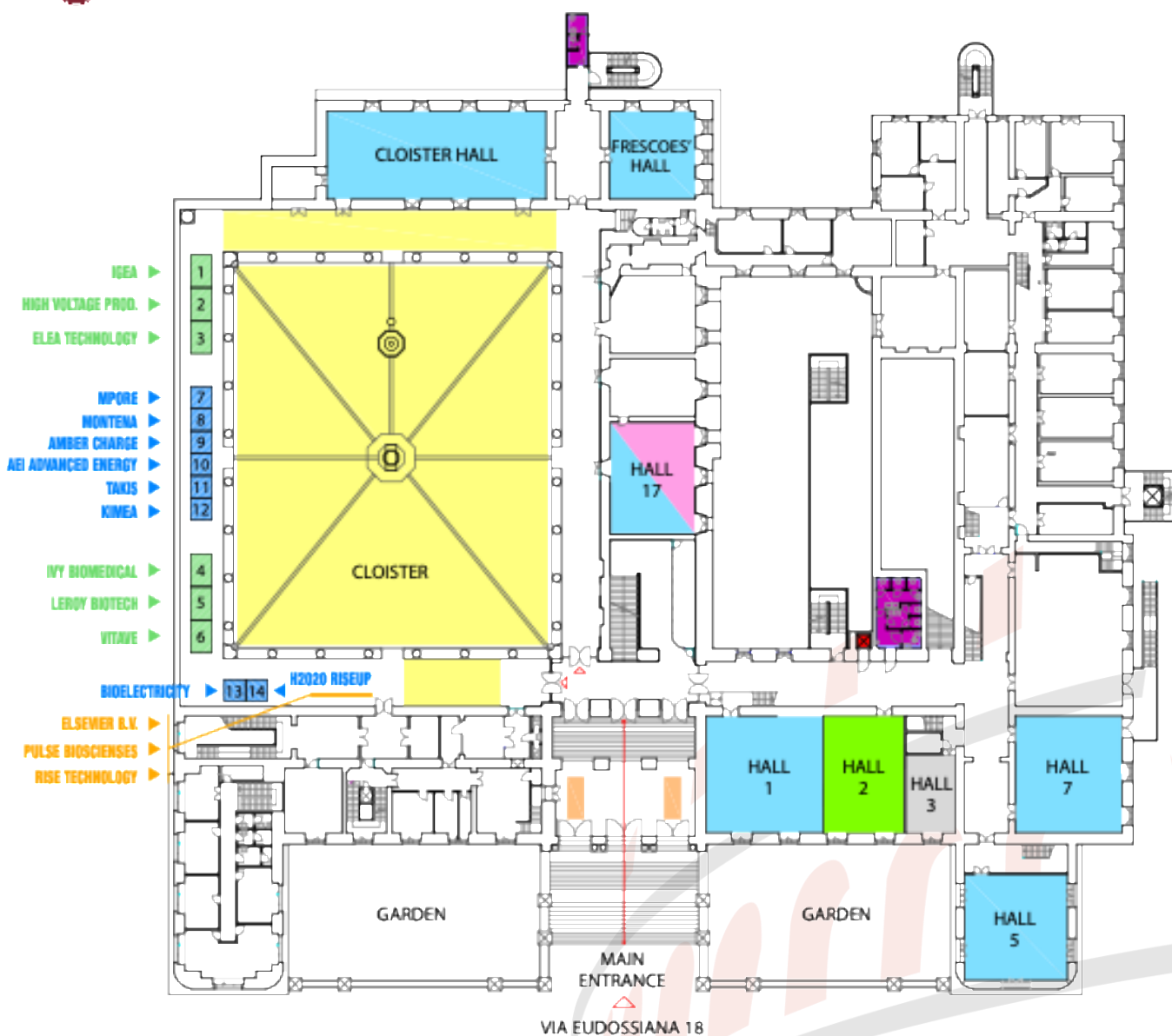
FIRST FLOOR

- | | | |
|---|---|---|
|  Registration |  Speaker Ready Room |  Catering Area |
|  Scientific Sessions Halls |   Stand |  Lift |
|  Board Meeting Room |  Branded Panel |  Toilet |



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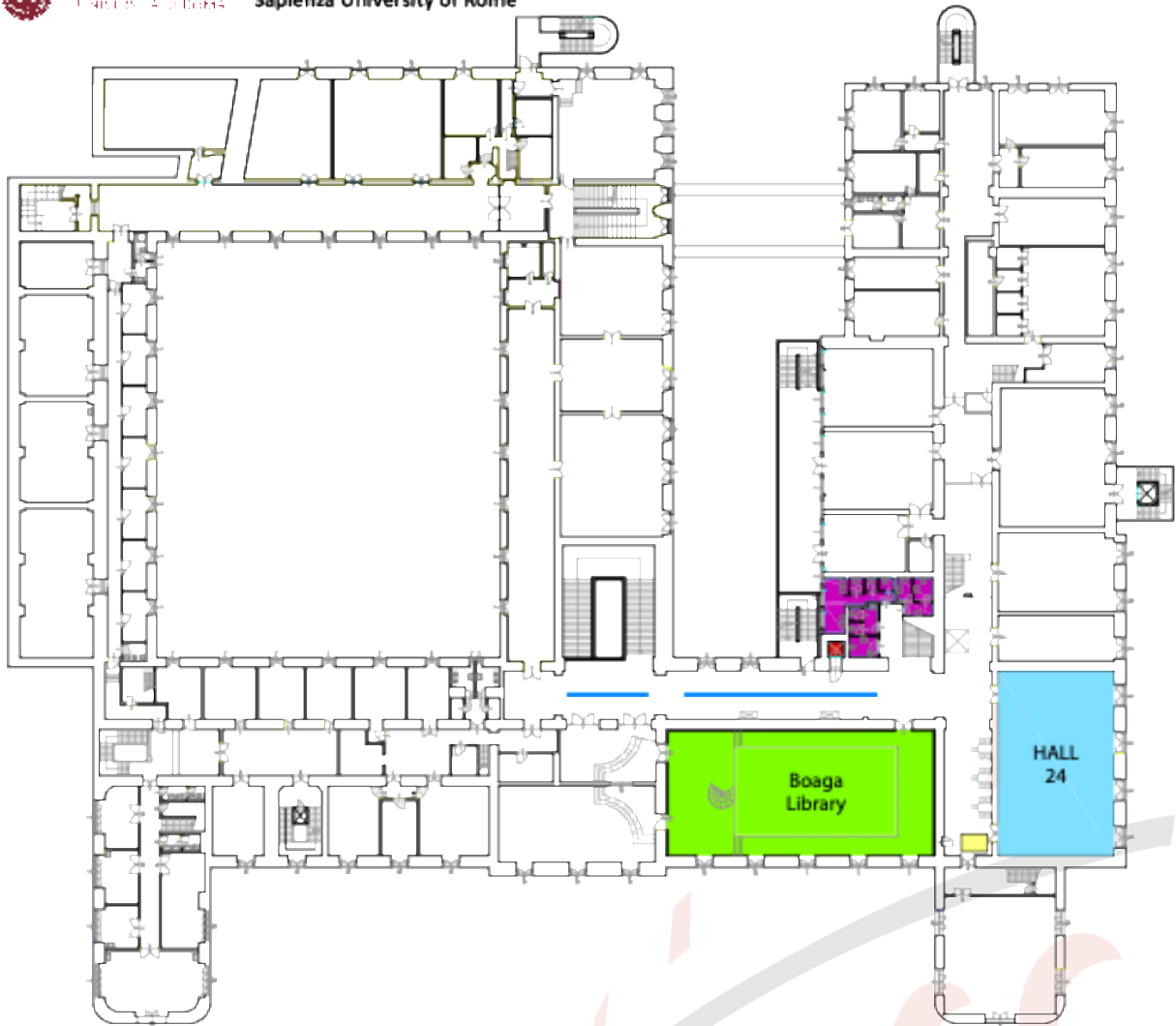
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	Scientific Sessions Halls		Social Space		Lift
	Poster Area		Catering Area		Toilet



SAPINZA
UNIVERSITY OF ROME

Faculty of Civil and Industrial Engineering
Sapienza University of Rome



Social Events

Welcome Ceremony

Date: Sunday, 15 September 2024
Time: 17:30-21:00 (see schedule below)
Places: San Pietro in Vincoli Basilica and Faculty of Civil and Industrial Engineering, University Sapienza of Rome

All the congress participants are invited to join the Welcome Ceremony and the Welcome Reception. The Welcome Ceremony will start with the welcome of authorities and will end with a vibrant string concert by the “Kepos” quartet. After the concert, a welcome cocktail will be served in the Cloister of the Faculty.

Tours of Rome

Dates: Monday 16 and Tuesday 17 September 2024
Time: at the end of the Scientific Sessions
Duration: 1h30”
Departure place: Faculty of Civil and Industrial Engineering, University Sapienza of Rome

All the congress participant registered to this event are invited to reach the departure point a 18:00 and enjoy the visit of the most beautiful places of the ancient Rome and the wonderful company of colleagues from all over the world.

YS Night

Date: Monday, 16 September 2024
Time: 18:30-22:30
Place: The Sanctuary
Via delle Terme di Traiano, 4

All the students post-docs, and early carrier researchers registered to the congress are invited to reach the YS Night and enjoy a drink and glass of wine with food altogether in a very nice place in the heart of Rome. It will be great occasion to meet each other and to make new friendships.

Senior2YS Meeting Corner

Date: Tuesday 17 September 2024
Time: 18:30-20:00
Place: Faculty of Civil and Industrial Engineering, University Sapienza of Rome

This event offers an exceptional opportunity for young scientists to connect with senior researchers and industry leaders in the field, gaining advice from experts, while enjoying a fresh free beer!

Congress Dinner

Date: Wednesday, 18 September 2024
Time: 19:30-24:00
Places: Palazzo Brancaccio
Viale del Monte Oppio, 7

Join the Congress Dinner in the magnificent location of Palazzo Brancaccio. An Italian style menu will be served accompanied by excellent Italian wine. After the dinner there will be a DJ set, music and dancing. N.B. If you have not yet purchased a congress dinner ticket (25 euros), you can do it at the registration desk by Monday 16. (subject to availability).

Programme Overview

	SUNDAY 15	MONDAY 16	TUESDAY 17	WEDNESDAY 18	THURSDAY 19		
7:30-18:15	Registration (12:00 - 17:00)		Registration	Registration	Registration (07:30 - 17:00)		
8:30-8:50		Opening Session	Plenaries: Hall_1	Plenaries: Hall_1	Hall_1: S24 Hall_5: S07 Hall_7: P12 Cloister Hall: S12		
8:50-9:50		Plenaries: Hall_1 <i>Chairs: R. Davalos, E. Signori A. Pakhomov S. Katsuki</i>	<i>Chairs: M.P. Rols, R. Cadossi A. Ivorra L. Rems V. Reddy</i>	<i>Chairs: S. Mahnič-Kalamiza, J. I. Oey R. Soliva J. Impellizeri</i>			
9:50-10:00		ISEBTT Council (Hall_17)	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK		
10:00-10:10			COFFEE BREAK	COFFEE BREAK	COFFEE BREAK		
10:10-10:30			Hall_1: S21 Hall_7: P05 Hall_17: S05 Cloister Hall: S12	Hall_1: P13 Hall_5: S20 Hall_7: P05 Cloister Hall: P01	Hall_1: P07 Hall_5: S18 Hall_7: S16 Hall_17: S17 Cloister Hall: S04	Plenaries: Hall_1 <i>Chairs: M. Cadossi, L.M. Mir R. Heller F. Deschamps W. Wohlgemuth</i>	
10:30-10:40							
10:40-12:00							
12:00-12:10							
12:10-13:00	LUNCH	Congress LUNCH	Congress LUNCH	Congress LUNCH	Congress LUNCH		
13:00-13:10		Young initiative 3MT (Hall_1)	Industry panel on PFA (Hall_1)	ISEBTT General Assembly (Cloister Hall)	J. Teissié Award (Cloister Hall)		
13:10-13:20	Educational session (Hall_1)	Hall_5: P03 Hall_7: S01 Hall_17: S03 Cloister Hall: S08	-> 10 min change room ->		-> 10 min change room ->		
13:20-13:30							
13:30-13:40							
13:40-14:00					Hall_1: S21 Hall_5: P11 Hall_7: S09 Cloister Hall: S08	Hall_1: S21 Hall_5: S13 Hall_7: S01 Cloister Hall: S11	Hall_1: S06 Hall_5: S14 Hall_7: P06 Hall_17: S15 Cloister Hall: P08
14:00-14:10							
14:10-14:20							
14:20-14:30							
14:30-14:40							
14:40-15:00							
15:00-15:10	COFFEE BREAK	COFFEE BREAK & POSTER SESSION	COFFEE BREAK & POSTER SESSION	COFFEE BREAK & POSTER SESSION	COFFEE BREAK		
15:10-15:20							
15:20-15:30							
15:30-15:40							
15:40-15:50	Educational session (Hall_1)	Hall_1: P13 Hall_5: P03 Hall_17: P10 Cloister Hall: S22					
15:50-16:00							
16:00-16:10			Bioelectric consortium (Hall_17)				
16:10-16:20							
16:20-16:30							
16:30-16:40							
16:40-16:50							
16:50-17:00							
17:00-17:10			Hall_1: P07 Hall_5: S07 Hall_7: S09 Cloister Hall: S23	Hall_1: S10 Hall_5: P11 Hall_7: S19 Hall_17: S15 Cloister Hall: S11	Awards & Closing Ceremony		
17:10-17:20							
17:20-17:30							
17:30-17:40							
17:40-17:50							
17:50-18:00							
18:00-18:10							
18:10-18:20							
18:20-18:30	WELCOME CEREMONY						
18:30-18:40							
18:40-18:50							
18:50-19:00							
19:00-19:30							
19:30-20:00							
20:00-20:30							
20:30-21:00							
21:00-21:30							
21:30-22:00							
22:00-22:30							
22:30-23:00							
23:00-23:30							
23:30-24:00							

Sunday, September 15

	Sapienza Entrance	Hall 1 Educational Session <i>Moderator: Delia Arnaud-Cormos</i>	Hall 17
10:00			ISEBTT Council meeting
12:00	Registration		
13:00		Luis M. Mir, France. Electroporation concepts and overview.	
13:30		Muriel Golzio, France. Molecules delivery by electroporation.	
14:00		Maja Čemažar, Slovenia. Electrochemotherapy in oncology.	
14:30		Philippe Leveque, France. Electroporation technologies.	
15:00		Coffee break	
15:30		Michal Cifra, Czech Republic. Biophysical bases of electroporation.	Bioelectric Consortium
16:00	Rafael Davalos, United States. Modelling tissue electroporation.		
16:30	Samo Mahnič-Kalamiza, Slovenia. Electroporation in food.		
17:30-21:00		Welcome Ceremony	

Monday, September 16

8:30	Opening Session M. S. Sarto, Vice-Chancellor, Sapienza University of Rome F. Apollonio, C. Merla, general chairs of the conference
8:50	Plenary Session, Chairs: R. Davalos, E. Signori 8:50-9:20 A. G. Pakhomov: Visualizing Electropore Dynamics in Live Cells 9:20-9:50 S. Katsuki: Ion ion/protein mobilization following PEF application
9:50	Coffee break

10:30	S21 Cardiac ablation by irreversible electroporation - pulsed field ablation (PFA) (part I) Chairs: D. Miklavčič, A. González-Suárez
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Title	Presenter
In situ characterization of electroporation-dependent tissue properties for cancer and cardiac ablation.	E. Jacobs
Characterization of thermal safety profile of a novel balloon-in-basket PFA system under repeated PFA therapy applications: insights from in vivo and ex vivo studies.	L. Mittal
Isolated primary rat ventricular cardiomyocytes response to electroporation: action potential – Ca ²⁺ release – contraction.	V. Jan
Electrogram loss is neither sensitive nor specific for durable lesion formation in PFA.	H. Tandri
Arrhythmogenicity of monophasic and biphasic PFA waveforms in a porcine model.	T. Kumru
Surgical Ablation of Cardiac Tissue with Nanosecond Pulsed Electric Fields.	C. Zemlin

10:30	P5 Electroporation and cellular processes and pathways (part I) Chairs: A. Pakhomov, A. Bulysheva
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Title	Presenter
Facilitation of gelonin cytotoxicity with electroporation and its prospects for electrochemotherapy.	O. Pakhomova
Concomitant Electrotransfer of Small and Large molecules	S. Šatkauskas
Extracellular DNA enhances cell membrane damage stimulated by electrical short-circuiting via an aqueous droplet in dielectric oil.	H. Kurita
The inhibition of electrotransfection caused by the simultaneous transfer of multiple types of plasmid DNA.	E. Urbanskas

Role of the actin cortex in intracellular transport of electrotransferred DNA cargo	S. de Boer
Research on the behavior of annexin A4 protein after cell electroporation: insights into the active membrane repair mechanisms.	B. Jakštys

10:30 Hall 17	S05 Intensification of fermentation processes by PEF <i>Chairs: F. Schottroff, J. Raso</i>
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Title	Presenter
The role of PEF in enabling biotechnological processes for sustainable food processing.	C. Siemer
Use of PEF for the extraction of oenological compounds and pigments from yeasts.	A. Berzosa
Technical implementation of nsPEF in industrial biotechnological cultures.	M. S. Fluri
Industrial application of nanosecond PEF.	L. Buchmann
Enhancement of protein extraction and growth stimulation of microbial cells by μ s PEF.	F. Schottroff

10:30 Cloister Hall	S12 Numerical modelling as an essential tool in electroporation research (part I) <i>Chairs: B. Kos, C. Poignard</i>
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Title	Presenter
The role of PEF in enabling biotechnological processes for sustainable food processing.	C. Siemer
Use of PEF for the extraction of oenological compounds and pigments from yeasts.	A. Berzosa
Technical implementation of nsPEF in industrial biotechnological cultures.	M. S. Fluri
Industrial application of nanosecond PEF.	L. Buchmann
Enhancement of protein extraction and growth stimulation of microbial cells by μ s PEF.	F. Schottroff

12:00	Congress lunch
13:00 Hall 1	3MT <i>Chairs: M. Colella, M. De Robertis</i>

13:40 Hall 17	S03 Microalgae biorefinery <i>Chairs: N. Grimi, U. Tylewicz</i>
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Title	Presenter
Microalgae biocompound extraction: simulation and experimental based analysis of residence time and cell suspension characteristics for consistent and scalable continuous flow PEF processing.	B. P. Perez Simba
Plasma-based extraction of compounds from the extremophile microalgae <i>Galdieria sulphuraria</i> .	K. Zocher
Pulsed electric fields for efficient lipid droplet extraction from cell-wall deficient microalgae.	J. Baumgartner
Biological signaling supports biotechnology: cell death triggers protein release from <i>Chlorella vulgaris</i> .	C. Gusbeth

13:40	S08 Public health risks and pulsed electric fields in the food industry
Cloister Hall	<i>Chairs: I. Álvarez, J. M. Martínez</i>

Title	Presenter
Microbiological characterization of almond-based milk alternative and decontamination using pulsed electric fields (PEF)	A. Thamsuaidee
Electrochemical reactions as a side effect of Pulsed electric field treatment	G. Pataro
Investigation of microbial strain variability resistance under PEF treatments and identification of the underlying molecular mechanisms	F. Lytras
Surgical Ablation of Cardiac Tissue with Nanosecond Pulsed Electric Fields.	C. Zemlin

13:40	P3 Irreversible electroporation (part I)
Hall 5	<i>Chairs: R. Davalos, T. Garcia</i>

Title	Presenter
Characterization of pulsed electric fields for in vitro tumor spheroids and metastatic invasion.	J. Arroyo
Study of irreversible electroporation-induced cell death in a 3D spheroid hepatocarcinoma model.	N. Mattei
Acute efficacy and durability of in vitro pulsed field ablation in relation to the delivered energy impulse.	I. Fišerová

13:40	S01 Medical applications of nsPEFs (part I)
Hall 7	<i>Chairs: R. Nuccitelli, O. Pakhomova</i>

Title	Presenter
Nano-Pulse Stimulation initiates an immune response in several types of murine tumors.	R. Nuccitelli
Distinct tumor immune responses to nanosecond pulsed electric fields (nsPEFs) determine immunity.	S. Beebe

The effects of nanosecond pulses on cell growth and multi-drug resistance in pancreatic cancer cells	J. Kulbacka
Are high-voltage nanosecond pulsed electric fields selective for cardiomyocytes?	P. Sowa

14:40	Coffee break & poster session
Second Floor	<i>Chairs: S. Mahnič-Kalamiza, G. Ciliberto, G. Pemen</i>

16:10	S22 New waveforms and electric field management strategies for EP-based therapies
Cloister Hall	<i>Chairs: A. Ivorra, M. Liberti</i>

Title	Presenter
Fifty shades of Electroporation.	D. Miklavčič
Impact of pulse protocol parameters on the efficacy of electrochemotherapy in vitro.	S. Salati
Voltage vs current control. Selecting the best delivery strategy.	Q. Castellvi
Differentiating electroporation currents using dynamic PEF modeling.	C. De Souza Ramos
Comparison of the thresholds for electroporation and excitation for pulses within nanosecond–millisecond duration range	G. Saulis
Study on effect of electroporation using amplitude modulation signal and harmonic addition	B. López-Alonso

16:10	P10 Electrofluidic, microfluidic and lab on a chip
Hall 17	<i>Chairs: M. Moiescu, H. Hosano</i>

Title	Presenter
Microphysiological system for PEF treatment of mammalian cells with integrated oxygen and TEER sensors.	N. Bakute
Study on the technique of inducing perforation of blood clots by pulsed electromagnetic fields.	Y. Lei
Dielectrophoresis – tool for analysis of mesenchymal stem cells differentiation.	M. Moiescu
OpenDEP: A free-access platform for collecting and analyzing dielectrophoresis spectra	M. Moiescu
A Lab-On-Chip based on transferred laser-induced graphene electrodes and machine learning for electroporation of adhered cells.	G. Antonelli

Non-invasive vaccine/drug delivery and theranostics by microfluidics of shock waves.	N. Hosano
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16:10	P13 General applications of electroporation for food processing (part I)
Hall 1	<i>Chairs: G. Pataro, I. Oey</i>

Title	Presenter
Validating pulsed electric field pasteurization of protein rich plant-based milk alternatives: a novel challenge trial approach.	N. Horlacher
Application of continuous pulsed electric field (PEF) treatment in human milk as an alternative pasteurisation technique.	Y. Wang
Comprehensive analysis of heat-assisted pulsed electric fields and conventional thermal treatment for orange juice pasteurization: cost, energy, efficiency, and sustainability assessment	G. Landi
Effect of pulsed electric field processing on functional properties of plant protein in yogurt alternative applications.	N. Horlacher
Effect of pulsed electric fields on protein extraction of duckweed (<i>L. minor</i> and <i>L. gibba</i>).	P. Maag
Pulsed electric field-assisted preparation of dialdehyde starch and its effect on structure and physiochemical properties.	Z. Han

16:10	P3 Irreversible electroporation (part II)
Hall 5	<i>Chairs: S. Šatkauskas, M. Golzio</i>

Title	Presenter
Study on segmented model of tissue conductivity recovery after high voltage pulsed electric field treatment.	Y. Zhao
Development of a single needle electroporation device towards more spherical ablations.	Z. Salameh
Production of large spherical ablations using pulsed electric fields administered via a single applicator.	J. Darrow
Investigation of rabbit heart electrical activity changes after electroporation using combined optical and transmural microelectrode technique.	S. Šatkauskas
Electrical conductivity in human liver tissue: In vivo Assessment on normal vs. tumor.	F. Burdío

17:40	Session end
18:30-22:30	YS Night
18.30-20:00	Tours of Rome

Tuesday, September 17

8:30	Plenary Session, Chairs: M. P. Rols, R. Cadossi
Hall 1	8:30-9:00 A. Ivorra: Lethal and non-lethal perturbation of cells by electroporation 9:00-9:30 L. Rems: Mechanistic insights into the effects of electroporation on excitable cells 9:30-10:00 V. Reddy: EP for Cardiac ablation
10:00	Coffee break

10:40	S20 PhD Students as important bricks in the wall of funded projects and basic research
Hall 5	<i>Chairs: S. Fontana, G. Innamorati</i>

Title	Presenter
Gene electrotransfer of plasmid encoding Interleukin-12: off-target effects in murine cancer cells in vitro.	A. Medved
Randomised controlled clinical trial investigating the effect of reduced bleomycin in electrochemotherapy treatment on patients with cutaneous malignancies.	M. Tolstrup
Validation of in situ electroporation performed within a single cell microwave biosensor	A. Calvel
Empowered cellular and subcellular modeling for microdosimetric investigation of PEF exposure.	N. Dolciotti
Effects of intense electric field on TRPV4 ion channel: a molecular dynamic study.	C. Pisano
Anti-tumor efficacy of new high-frequency electrical protocols on in vitro three-dimension colorectal cancer model.	A. de Caro

10:40	P1 Electroporation and immune response
Cloister Hall	<i>Chairs: L.M. Mir, M. Benazzo</i>

Title	Presenter
Immunological changes in murine tumor cell lines following electrochemotherapy in vitro.	T. Jesenko
Electroporation of 3D-cultured breast cancer cells elicits T lymphocyte-mediated killing.	M. De Robertis

Electroporation alters the proteomic output in human ex vivo GI cancer explant models: boosting systemic anti-tumour immunity and polarizing immune cell populations.	A. Uí Mhaonaigh
Enhanced antitumor efficacy of bleomycin electrochemotherapy combined with anti-PD-1 in mouse tumor models.	S. Kranjc Brezar
Immunotherapy in combination with electrochemotherapy (IMMUNE-ECT) in head and neck cancer.	M. Minuti

10:40	P5 Electroporation and cellular processes and pathways (part II)
Hall 7	<i>Chairs: O. Pakhomova, M.P. Rols</i>

Title	Presenter
Optimizing electroporation: efficiency and cell viability in the simultaneous transfer of bovine serum albumin, propidium iodide and nucleic acids.	J. Venckus
Mitochondrial depolarization and ATP loss during high frequency nanosecond electroporation.	P. Malakauskaitė
Generation of hypochlorous acid by high-voltage pulses and its influence on the cell plasma membrane.	G. Saulis
Application of pulsed electric fields to gating blood-brain barrier for drug delivery.	P. Solopov
Is irreversible electroporation immunologically superior to thermal ablation or cryoablation? A closer look at antigen presentation, T cell activation and synergy with immune checkpoint blockades.	Q. Shao
Involvement of mitochondria in the selective response to microsecond pulsed electric fields on both healthy and cancer stem cells in the brain.	M. Tanori

10:40	P13 General applications of electroporation for food processing (part II)
Hall 1	<i>Chairs: F. Gómez Galindo, L. Redondo</i>

Title	Presenter
Nondestructive extraction of functional molecules in yeast using 100 kV/cm class electrical pulses.	H. Hashisako
Pulsed electric field treatment for preservation of chlorella suspensions.	C. De Gol
Correlation of PEF induced biological autochemiluminescence with yeast cell electroporation.	M. Bereta
Germination and stress tolerance of oats treated with pulsed electric field at different phases of seedling growth.	A. H. Al-Khafaji
Effects of different combinations of pulsed electric field and pH shifting treatment on the aggregation structure and functional properties of soybean protein isolates.	R. Wang
Analysis of temperature dependent dielectric properties of bacteria for effective PEF pasteurization.	R. Kimura

12:10	Congress lunch
13:20	<p style="text-align: center;">PFA Industry Panel, Moderator: D. Miklavčič</p> <p>Pulsed Field Ablation – gaps in knowledge and future directions of development (Damijan Miklavčič)</p> <p>Panelists:</p> <ul style="list-style-type: none"> Ruggero Cadossi, IGEA, Italy; Maura Casciola, FDA, USA; Brendan Koop, Boston Scientific, USA; Steve Miller, Abbott, USA; Vivek Reddy, Mount Sinai Hospital, New York, USA; Tushar Sharma, Biosense Webster, USA. Daniel C. Sigg, Medtronic, USA; Darrin Uecker, Pulse Biosciences, USA.
Hall 1	

14:20	<p>S21 Cardiac ablation by irreversible electroporation - pulsed field ablation (PFA) (part II)</p> <p><i>Chairs: T. García-Sánchez, T. Kumru</i></p>
Hall 1	

Title	Presenter
Initial single centre experience with pulsed field ablation for treatment of cardiac arrhythmias.	J. Štublar
Intraoperative Assessment of Irreversible Lesion Formation During PFA.	P. Karmarkar,
Lesion Durability Prediction based on Real-Time Impedance Analysis Algorithms: Validation with First-in-Human Clinical Data from the RESET-AF Trial.	L. Boehmert
Investigation of bubble formation in intracardiac pulsed field ablation.	S. Mahnič-Kalamiza

14:20	<p>S08 Public health risks and pulsed electric fields in the food industry (part II)</p> <p><i>Chairs: I. Álvarez, J.M. Martínez</i></p>
Cloister Hall	

Title	Presenter
A multivariate study on continuous-mode pulsed electric field treatment of E. coli in water.	F. Zare
Inactivation of zoonotic parasites by PEF, beyond single-cell electroporation.	J. M. Martínez
Rapid recovery of bacterial membrane following exposure to pulsed electric fields.	B. Yan

Limitations of PEF for food pasteurization: role of membrane resealing in the microbial inactivation kinetics.	C. Delso
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14:20 Hall 7	S09 Treatment of spinal cord injury: novel strategies and updates from the RISEUP project (part I) <i>Chairs: C. Consales, M. Colella</i>
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<i>Title</i>	<i>Presenter</i>
Sensorimotor contributions to human cognition and emotion: clinical neuroscience clues for optimizing engineering approaches to functional restoration in people with spinal cord lesions.	S.M. Aglioti
Mechanisms of spinal cord regeneration.	M. Anderson
Towards neuronal reconnection after a spinal cord injury using graphene-based nanocomposites – The NeuroStimSpinal project.	P. Marques
Neuroprotective effect of pulsed electromagnetic fields after acute ischemic stroke.	S. Salati

14:20 Hall 5	P11 Electroporation modeling and mechanisms (part I) <i>Chairs: D. Voyer, D.O.H. Suzuki</i>
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<i>Title</i>	<i>Presenter</i>
Multi-stages pulse modulation strategy (MSPM) enhances electroporation-mediated intracellular delivery by regulating the distribution and accumulation of drugs.	X. Tao
Multi-scalar microscopic molecular dynamics, coarse-grained and macroscopic study of voltage-gated protein interactions and complex lipid pore formation during cellular electropermeabilization.	J. G. Cuevas
Comparison of sharpness and electrical field distribution of different electrode needles for electrochemotherapy.	A.L. Campastri
Cell electropermeabilization with subnanosecond pulsed electric fields.	L. Vallet

15:20 Second Floor	Coffee break & poster session <i>Chairs: O. Zeni, A. Mathys, Ó. Lucía</i>
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16:50 CloisterHall	S23 Electroporation-based treatments in veterinary medicine <i>Chairs: M. Čemažar, N. Tozon</i>
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<i>Title</i>	<i>Presenter</i>
Electro-Chemo-Immuno Therapy: activating local and systemic immunity.	L. Aurisicchio

Electrochemotherapy for bilateral limbal squamous cell carcinoma in a horse.	M. Larsen
Predictive factors in electrochemotherapy with or without IL-12 gene electrotransfer in dogs and cats.	N. Tozon
Comparison of intratumoral or peritumoral IL-12 gene electrotransfer in combination with electrochemotherapy for the treatment of spontaneous mast cell tumors in dogs.	U. L. Tratar
A veterinary electrotransfer system that employs heat and impedance – Progress toward commercialization	M. Jaroszeski
Electrical characterization of VX2 tumor in rabbit model for electroporation purposes	B. López-Alonso

16:50	S07 Potential applications of PEFs technology in vegetable and fruit processing (part I) <i>Chairs: M. Giancaterino, C. Siemer</i>
Hall 5	

Title	Presenter
How does PEF impact membrane integrity and the volatile profile of leek?	L. Lanssens
Practical application using Pulse Electric Field (PEF) approach in milking the roots from aeroponic system.	S. Ślusarczyk
Seaweed processing with pulsed electric fields: from batch to continuous process development for functional ingredients production.	A. Golberg
Optimizing valuable compound recovery from food side streams and microbial biosynthesis through PEF-induced extraction and stress strategies	R. Sevenich
Increasing the yield of juice and bioactive compounds extracted from blueberries using pulsed electric field	S.K Tai

16:50	S09 Treatment of spinal cord injury: novel strategies and updates from the RISEUP project (part II) <i>Chairs: M. Colella, C. Consales</i>
Hall 7	

Title	Presenter
Boosting the development of electro pulsed bio-hybrid implantable devices through advanced modelling in vitro and in vivo	M. Colella
Materials solutions for an electrostimulable device for use in spinal cord injury model in rat.	F. Gisbert Roca
Electromanipulation of calcium oscillations in mesenchymal stem cells, a control of cell fate?	L. Vallet
Effects of microsecond electrical pulses on the inflammatory response.	G. Innamorati
Emerging approaches to neural tissue regeneration: electrical stimulation of stem cells.	R. Samiaa

Regeneration of injured spinal cord by applying subdural electro pulsed stimulation and stem cell bio-hybrid approach.	L. Mannino
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16:50	P7 Electroporation for clinical use (part I)
Hall 1	<i>Chairs: M. Sano, J. Kulbacka</i>

Title	Presenter
Optimization of bipolar microsecond electric pulses for DNA vaccine delivery	R. Williamson
Keloid treatment with electrochemotherapy.	S. Michinski
Development of a specific gel for skin cancer electrochemotherapy.	A. Cilio
The synergy of conductive nanoparticles with nanosecond and microsecond pulse bursts for bleomycin-based electrochemotherapy.	B. Lekešytė
Development of novel genetic vaccine platforms: from the idea to GMP production.	L. Aurisicchio
Low-dose electrochemotherapy enhances DNA damage and overcome resistance through synergistic drug delivery.	V. Malik

18:20	End sessions
18.30-20:00	Tours of Rome
18:30-20:00	SENIOR2YS meeting corner
20:30-22:30	Bioelectric Dinner (by invitation)

Wednesday, September 18

8:30	Plenary Session, Chairs: J. Raso, Samo Mahnič-Kalamiza 8:30-9:00 I. Oey: Pioneering sustainable food production with pulsed electric field technology 9:00-9:30 R. Soliva-Fortuny: Unleashing the potential of pulsed electric fields in food processing: from techno-functional improvement to health-boosting innovations 9:30-10:00 J. Impellizeri: Electroporation- The U.S. Veterinary Experience with ECT and GET
Hall 1	
10:00	
Coffee break	

10:40	S04 Advanced applications of PEF for food quality enhancement, food component modification, and structural alterations <i>Chairs: S. Mahnič-Kalamiza, J. Genovese</i>
Cloister Hall	

<i>Title</i>	<i>Presenter</i>
Introduction to Advanced Applications of PEF for Food Quality Enhancement, Food Component Modification, and Structural Alterations.	J. Genovese
PEF for more sustainable, nutritious biomass and macromolecules for food applications with a case study on microalgae.	I. Haberkorn
The influence of a pulsed electric field on the osmotic dehydration process and selected physical properties of orange fruits dehydrated in unconventional solutions.	A. Cieurzyńska
The manifold manifestations of electroporation effects on plant tissue and how their quantification depends on the method of analysis.	M.A.M. Kirchner
Enhancing chemical reactions and modification of food ingredients using pulsed electric fields: an alternative technique.	X.A. Zeng
Opportunities for implementing pulsed electric fields for the enhanced processing of plant-based foods.	G. Dimopoulos
Comparison of nanosecond and microsecond PEF for physical property and substance mobilization in potato.	Y. Takahashi
Effect of PEF on ginger roots: Improving juice extraction yield or product quality.	R. Timmermans

10:40	S17 Voltage control of biological membrane pores <i>Chairs: F. Castellani, M. Lindau</i>
Hall 17	

Title	Presenter
Voltage sensitivity of electropores limits the membrane potential.	A. Pakhomov
Visualizing membrane fusion and budding in live cells.	L.G. Wu
Using the same electrode to electroporate a chromaffin cell and measure the resulting exocytosis of catecholamine.	K. Gillis
Molecular mechanisms of vesicle priming, fusion pore formation and transmitter release by electrodiffusion.	M. Lindau
Lipid protein interactions guide fusion pore opening and expansion during regulated exocytosis.	V. Kiessling

10:40	S18 Bridging the gap between experimental and modeling studies in PEF electroporation: a Young Professional's perspective
Hall 5	<i>Chairs: L. Caramazza, R. Orlacchio</i>

Title	Presenter
Evaluating biological membrane response to PEF: a multiscale computational approach.	L. Caramazza
Effects of pulsed electric fields on collagen self-assembly and collagen secretion by dermal fibroblasts.	E. Barrere
Exploring vibrational and electromagnetic properties of protein tubulin using normal mode analysis and molecular dynamics simulations.	S.K. Pandey
Nanosecond pulsed electric fields and gold nanoparticles for cancer treatment.	R. Orlacchio
Deciphering the behavior of multicellular 3D spheroids exposed to high-intensity pulsed electric fields by a mathematical modeling approach.	A. Collin
On the complementarity of modeling and experimentation in the study of biological effects of subnanosecond pulsed electric fields.	L. Vallet

10:40	S16 Electroporation in veterinary and translational medicine
Hall 7	<i>Chairs: F.H. Maglietti, J. Impellizeri</i>

Title	Presenter
Chimeric DNA vaccination against the Chondroitin Sulfate Proteoglycan 4: a potential allied in combinatorial approaches for the treatment of melanoma and osteosarcoma.	F. Riccardo
Electrochemotherapy plus il-2+il-12 gene electrotransfer in spontaneous inoperable stage iii-iv canine oral malignant melanoma.	S. Salgado
Adjuvant electrochemotherapy and/or radiotherapy in feline injection site sarcoma.	M. Tellado
Retrospective analysis of the outcome and survival time of dogs with mast cell tumors with different degrees of malignancy treated with electrochemotherapy.	J. Ojeda
Evaluation of the safety and feasibility of electrochemotherapy with intravenous bleomycin as local treatment of bladder cancer in dogs.	M. Rangel

10:40	P7 Electroporation for clinical use (part II) <i>Chairs: C. Yao, G. Srimathveeravalli</i>
Hall 1	

Title	Presenter
Enhancing sensitivity to radiation therapy using electroporation in a radio-resistant model of oesophageal cancer.	A. Woods
Electroporation treatment alters the inflammatory tissue microenvironment in the human inflammatory condition, Barrett's Oesophagus.	L. Smith
Intraoperative electrochemotherapy of the posterior resection surface after pancreaticoduodenectomy: Preliminary results of a hybrid approach treatment of pancreatic cancer.	Ž. Čebren
Novel synergistic electric pulses and first human cancer clinical trials: Towards the balance between negligible muscle contraction and enhanced ablation.	H. Liu
Bleomycin based electrochemotherapy with standard electrodes for advanced stage, recurring vulvar/cervix carcinomas.	A. Ottlakan
Electrochemotherapy: from palliation to important player in the multidisciplinary management of the cancer patient.	A. Bonadies

12:10	Congress lunch
13:10	ISEBTT General Assembly
Cloister Hall	

14:20	S21 Cardiac ablation by irreversible electroporation - pulsed field ablation (PFA) (part III) <i>Chairs: L. Mittal, A. Ivorra</i>
Hall 1	

Title	Presenter
Protocol-specific modelling of cardiac pulsed field ablation.	A. Petras
Endocardial or epicardial delivery of pulsed field ablation of ganglionated plexi? Assessment and quantification from an in-silico modelling study.	A. González-Suárez
Modeling the long-term effects of pulsed-field ablation including comparison with radio-frequency ablation.	S. Nati Poltri
Multiscale simulation of calcium-mediated cardiac lesion and stunning in pulsed field ablation.	Q. Castellvi

14:20	S01 Medical applications of nsPEFs (part II) <i>Chairs: R. Nuccitelli, O. Pakhomova</i>
Hall 7	

Title	Presenter
Investigating the mechanism and dynamics of Ca ²⁺ -mediated pore expansion after nsPEFs in healthy and cancerous urothelial cells.	A. Kietbik
Synergistic effects and mechanisms of nanosecond pulsed electric fields and cold atmospheric plasma to treat pancreatic cancer.	S. Guo
Nanosecond bursts of ultra-high frequency for electrochemotherapy and gene delivery.	V. Novickij
Characterizing the immune response following high frequency nanosecond bipolar and unipolar calcium electrochemotherapy.	E. Radzevičiūtė-Valčiuke

14:20	S13 High voltage electrical discharges: principles and applications <i>Chairs: N. Boussetta, E. Vorobiev</i>
Hall 5	

Title	Presenter
High-performance solid-state generator for nsPEF applications.	P. Briz
A synergistic bipolar pulse power generator for expanding ablation area and inhibiting muscle contraction.	S. Dong
Pulsed atmospheric pressure plasma for the destruction of emerging contaminants and the inactivation of bacteria in water.	C. Aggelopoulos
Degradation of pesticide atrazine in water by high voltage electrical discharges.	N. Boussetta

14:20	S11 In vivo delivery of genetic medicine through gene electrotransfer (part I) <i>Chairs: K. Hollevoet, E. Signori</i>
Cloister Hall	

Title	Presenter
Exploring gene electrotransfer as a DNA vaccination strategy: insights from a COVID-19 vaccine study.	U. Kamenšek
Enhancing molecular cargo electrotransfer by modulating vesicular transport in cells.	F. Yuan
LiveGT enhances skeletal muscle reprogramming and physiological levels of insulin production.	A. Bulysheva
Magnetoporation: A novel method of molecular delivery for cell and gene therapies.	Z. Rapp
Development of in vivo-launched synthetic DNA-encoded antibodies employing CELLECTRA® electroporation technology	T. Smith

15:20	Coffee break & poster session
Second Floor	<i>Chairs: R. Orlacchio, A. Szewczyk, O. Martín-Belloso</i>

16:50	P11 Electroporation modeling and mechanisms (part II)
Hall 5	<i>Chairs: J. Kolosnjaj-Tabi, P. Lamberti</i>

Title	Presenter
AC electrodeformation studies on compound giant unilamellar vesicle as a model of eukaryotic cell.	R. Kumar
Suitability (and not) of giant unilamellar vesicles in electroporation studies for biological applications.	R. Thaokar
Correlation between numerical simulations and clinical outcomes of irreversible electroporation for hepatocellular carcinoma.	O. Sutter
Simulation study on waveform characteristics of measuring bio-impedance using pulse frequency response method.	L. Zhao

16:50	S15 Advanced imaging techniques for visualizing the mechanisms of pulsed electric field interactions (part I)
Hall 17	<i>Chairs: J. Bixler, B. Ibey</i>

Title	Presenter
PEF effect illumination: observing protein oxidation effects of pulsed electric field through monitoring (bio)chemiluminescence.	K. Červinková
Electric field effects on human skeletal muscle-derived mesenchymal stem/stromal cells investigated by scanning electrochemical microscopy.	I. Morkvenaite-Vilkonciene
Effects of nanosecond pulsed electric field on cancerous and normal cells — fluorescence microscopy and autofluorescence lifetime imaging.	N. Ohta

16:50	S11 In vivo delivery of genetic medicine through gene electrotransfer (part II)
Cloister Hall	<i>Chairs: K. Hollevoet, E. Signori</i>

Title	Presenter
Immunomodulatory effects of plasmid DNA following gene electrotransfer in colon cancer utilizing different electric pulse protocols.	T. Bozic
Calcium electroporation and interleukin-12 gene electrotransfer.	M. Čemažar

Unraveling a multifactorial host immune response to intramuscular electrotransfer of DNA-encoded antibody therapy.	J. Sprooten
Enhancing the therapeutic benefits of proteins with short half-lives: delivery of G-CSF and GLP-1 with DNA-based MYO technology	D. Maji

16:50	S19 Pulsed electric fields in meat and fish and their by-products processing <i>Chairs: U. Tylewicz, P. Rocculi, S. Tappi</i>
Hall 7	

Title	Presenter
New advancement on meat processing using pulsed electric field technology.	I. Oey
Inactivation by pulsed electric fields of Anisakis in naturally infected hake meat.	V. Abad
Valorization of shrimp by-products: Extraction of high value-added compounds by pulsed electric field (PEF) and accelerated solvent extraction (ASE).	A.C. De Aguiar Saldanha Pinheiro

16:50	S10 Electrochemotherapy of cutaneous tumors <i>Chairs: G. Bertino, J. Gehl</i>
Hall 1	

Title	Presenter
Electrochemotherapy for kaposi sarcoma and merckel cell carcinoma: findings of the InspECT rare tumours working group.	J. Odili
Electrochemotherapy in the treatment of cutaneous melanoma metastases – the InspECT experience.	E. Kis
InspECT database and clinical results of electrochemotherapy.	G. Bertino
Electrochemotherapy for the treatment of cutaneous metastases from breast cancer.	J. Gehl
Differential expression analysis of cutaneous squamous cell carcinoma and basal cell carcinoma proteomic profiles sampled with electroporation-based molecular biopsy.	A. Golberg
Electrochemotherapy in the treatment of chronic suppurative benign skin conditions: The St George's Hospital experience.	J. Odili

18:20	End sessions
19:30-24:00	Congress Dinner

Thursday, September 19

08:30	S24 Emerging role of Electrochemotherapy in the treatment of GastroIntestinal cancer <i>Chairs: L. Tagliaferri, R. Iezzi</i>
Hall 1	

Title	Presenter
The Interventional Oncology in the modern interdisciplinary scenario.	G. Kovács
The role of Interventional Radiology.	L. Crocetti
The role of Interventional Endoscopy.	F. Attili
The role of Interventional and External Beam Radiotherapy.	B. Fionda
The role of Electrochemotherapy.	M. Ferioli
The synergistic effect of Electrochemotherapy in the modern Oncology scenario.	A. Kovacs

08:30	P12 Biomass transformation and biocompounds <i>Chairs: A. Mathys, W. Frey</i>
Hall 7	

Title	Presenter
Non-lethal extraction of phytochemicals and growth promotion of <i>Iris domestica</i> (L.) DC roots enabled by electroporation.	K. Grzelka
Bioactive potential of yeast proteins extracted with HPH and PEF.	J. Marín-Sanchez
Influence of pulsed electric fields in combination with other processes on the extraction of valuable compounds from brewer's spent yeast cells.	S. Schröder
Solvent lipid extraction from oleaginous yeast assisted by pulsed electric fields (PEF).	C. Delso
PEF treatment for the enhancement of microalgae cultivation.	I. Haberkorn

08:30	S07 Potential applications of PEFs technology in vegetable and fruit processing (part II) <i>Chairs: M. Giancaterino, C. Siemer</i>
Hall 5	

Title	Presenter
Understanding of the applicability and the mechanism behind pulsed electric fields (PEF) as an alternative peeling method.	M. Giancaterino
Effects of pulsed electric field pre-treatment on the heating uniformity and final product quality of ohmic cooked vegetables.	K. Waldert

Germination and stress tolerance of oats treated with pulsed electric field at different phases of seedling growth.	A.H. Al-Khafaji
Pulsed electric field, a possible strategy for mitigation of process contaminants in vegetable snacks.	S. Toepfl
Sustainable extraction of plant-based food colorants with pulsed electric fields.	M.A.M. Kirchner
Biospeckle activity: New electroporation assessment method for treated fruits and vegetables.	A. Matys

08:30	S12 Numerical modelling as an essential tool in electroporation research (part II) <i>Chairs: B. Kos, C. Poignard</i>
Cloister Hall	

Title	Presenter
Electrodissociation of cytoskeleton proteins by intense electric field: in silico.	M. Cifra
A coarse-grained lattice model of PEF inactivation kinetics from percolation theory.	F. Wu
Quantum chemical simulations of the interaction of Fe ²⁺ with glycerophospholipids.	A. Gruodis
Modelling the impact of electroporation on spheroid growth and the release of damage-associated molecular pattern molecules.	E. Leschiera
Skeletal muscle anisotropy from the perspective of experimental and model-based electrical impedance spectroscopy.	R. Šmerc

10:00	Coffee break
10:40	Plenary Session, Chairs: M. Cadossi, L. M. Mir 10:40-11:10 R. Heller: Enhanced delivery of plasmid DNA encoding therapeutic agents as a means to induce a robust anti-tumor immune response 11:10-11:40 F. Deschamps: Clinical application in bone metastases compressing the spinal cord 11:40-12:10 W. A. Wohlgemuth: Vascular malformation ablation
Hall 1	
12:10	Congress lunch
13:20	Jusitne Teissière Award to Felipe Maglietti <i>Chairs: L. M. Mir, M. Golzio, M. P. Rols</i>
Cloister Hall	

14:10	P6 Calcium electroporation <i>Chairs: B. Markelc, L. Aurisicchio</i>
Hall 7	

Title	Presenter
Calcium assisted irreversible electroporation treats early-stage bladder cancer by uniformly ablating the urothelial layer.	M. C. Sheehan
Characterization of two distinct immortalized endothelial cell lines, EA.hy926 and HMEC-1: Exploring the impact of calcium electroporation, Ca ²⁺ signaling and transcriptomic profiles.	T. Bozic
Calcium ascorbate delivered by electroporation as a novel effective strategy for colorectal cancer treatment.	E. Salvatori
Modeling the calcium oscillations response to pulsed electric fields for spinal cord regeneration.	A. Paffi

14:10	P8 Electroporation in veterinary oncology <i>Chairs: U. Lamprecht Tratar, M. Čemažar</i>
Cloister Hall	

Title	Presenter
Electrochemotherapy (ECT) with intratumoral and intravenous chemotherapy for the treatment of equine skin neoplasias.	C. Duran
Safety of concurrent administration of electrochemotherapy with intravenous bleomycin and intravenous carboplatin or vinblastine in tumour-bearing dogs and cats: a case series.	C. Penzo
Electrochemotherapy of cutaneous tumors in exotic pets.	J. Račnik

14:10	S15 Advanced imaging techniques for visualizing the mechanisms of pulsed electric field interactions (part II) <i>Chairs: J. Bixler, B. Ibey</i>
Hall 17	

Title	Presenter
Optical streaking microscopy enables visualization of ultra-fast response to charge accumulation from MHz bursts of nanosecond pulsed electric fields.	M. Keppler
Visualization of sub-microsecond changes in plasma membrane potential after exposure to a single microsecond electric pulse, or 5 MHz burst of low energy nanosecond electric pulses.	G. Tolstykh
Changes in hydration of cell membranes exposed to pulsed electric fields detected by wide-field coherent anti-stokes raman microspectroscopy.	C. Merla
Identifying the differences of nanosecond pulsed electric field effects on intracellular functions among breast cancerous and normal cells through real-time monitoring.	K. Awasthi

14:10	S14 Electromagnetic modelling for pulsed electric fields
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Hall 5	<i>Chairs: E. Sieni, R. Sundararajan, S. Romeo, P. Lamberti</i>
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Title	Presenter
A coplanar waveguide picosecond pulsed electric fields (psPEF) delivery system for the electro-permeabilization of biological cells.	H. Tjiou
A few hundred optoelectronic pulsed electric field generator with fully configurable pulse shape, duration and amplitude.	L. Michard
Complex electrical impedance and β -dispersion for electroporation sensing.	G. Brasil Pintarelli
Interpulse bioimpedance reading during electroporation as a tool for monitoring ablation completeness.	P.P. Santos
Optimization of electrode arrangement in 96-well plates for in vitro electroporation experiments.	O. Fiser

14:10	S06 Electrochemotherapy in treatment of vascular malformations
Hall 1	<i>Chairs: T. Muir, G. Serša</i>

Title	Presenter
Principles and mechanisms of bleomycin electrosclectrotherapy in treatment of vascular malformations.	G. Serša
Electrode for the treatment of atheromatous plaques by means of a combination of reversible and irreversible electroporation.	X. Manglano
Development of in vitro and in vivo models of vascular malformations for determining bleomycin electrosclectrotherapy (BEST) efficacy.	B. Markelc
Use of bleomycin electrosclectrotherapy (BEST) in hereditary hemorrhagic telangiectasia patient (HHT): a case report.	M. Minuti
Clinical applications of BEST in treatment of vascular malformations.	T. Muir
Bleomycin Electrosclectrotherapy (BEST): experience with lymphatic malformations.	G. Bertino

15:40	Coffee break
16:10	Award & Closing Ceremony
Hall 1	
17:00	ISEBTT Council
Hall 17	

Poster Overview

Nr	Title	Presenting author
PO-01	Surgery and ECT: an option for amputation of the posterior limb of a canine with an infiltrating sarcoma.	O. Pagotto
PO-02	Outcome of one session of ECT with bleomycin as single or adjuvant treatment in equine cutaneous sarcoids and melanoma.	M. Larsen
PO-03	Squamous cell carcinoma treated with electrochemotherapy.	J. Rodríguez Miranda
PO-04	ECT as salvage treatment of adrenal metastasis.	B. Peric
PO-05	The pancreatic cancer cellular response to calcium IRE.	A. Gajewska
PO-06	Tissue-ablation App for EP-based Therapy.	S. Kumar
PO-07	The effects of high frequency nsPEFs with Calcium on 3D spheroidal model of lung cancer.	N. Rembialkowska
PO-84	IRE: impact of novel multiple train pulse field on non-thermal tumor ablation.	C. Nulty
PO-08	Effects of calcium electroporation (CaEP), ECT and IRE in patients with locally advanced pancreatic adenocarcinoma. On-going clinical trial.	G. Rudno-Rudziska
PO-09	2D, 3D and in vivo osteosarcoma models for ECT studies.	U. Lamprecht Tratar
PO-10	Cell death mechanisms detected in cardiomyoblasts after conventional IRE and after H-FIRE.	M. Gómez-Barea
PO-11	Lesion depth analysis for PFA.	K. David
PO-12	Evaluation of collagen role in electroporation: two cell lines compared.	E. Sieni
PO-13	Electro-gene-transfer of a synthetic gene: a possible approach for treatment of Glycogen Storage Disease type III.	C. Merla
PO-14	Comparative evaluation of lipofectamine and EP side effects on cellular functions: emphasizing IMPDH regulation.	Y. Elhaei
PO-15	New microsystem for gradual EP of a regular spheroid population and application for protocol comparison.	T. Le Berre
PO-16	Z-Can modality for remote selective stimulation incorporating bipolar nanosecond cancellation.	S. Xiao
PO-17	Scanning electrochemical microscopy as a tool for microscale imaging after electroporation.	G. Tolvaisas
PO-18	Development of a high-voltage pulse generator with an integrated function of measuring tissue bio-impedance spectrum.	Y. Zhao
PO-19	A numerical model of irreversible electroporation at tissue scale specific to cardiac pulsed field ablation.	S. Bihoreau
PO-20	Electrical equivalent thermal modelling of tissues during H-FIRE.	H. Benchakroun
PO-21	Rate of pore formation by electroporation in black lipid membranes.	B. Altun

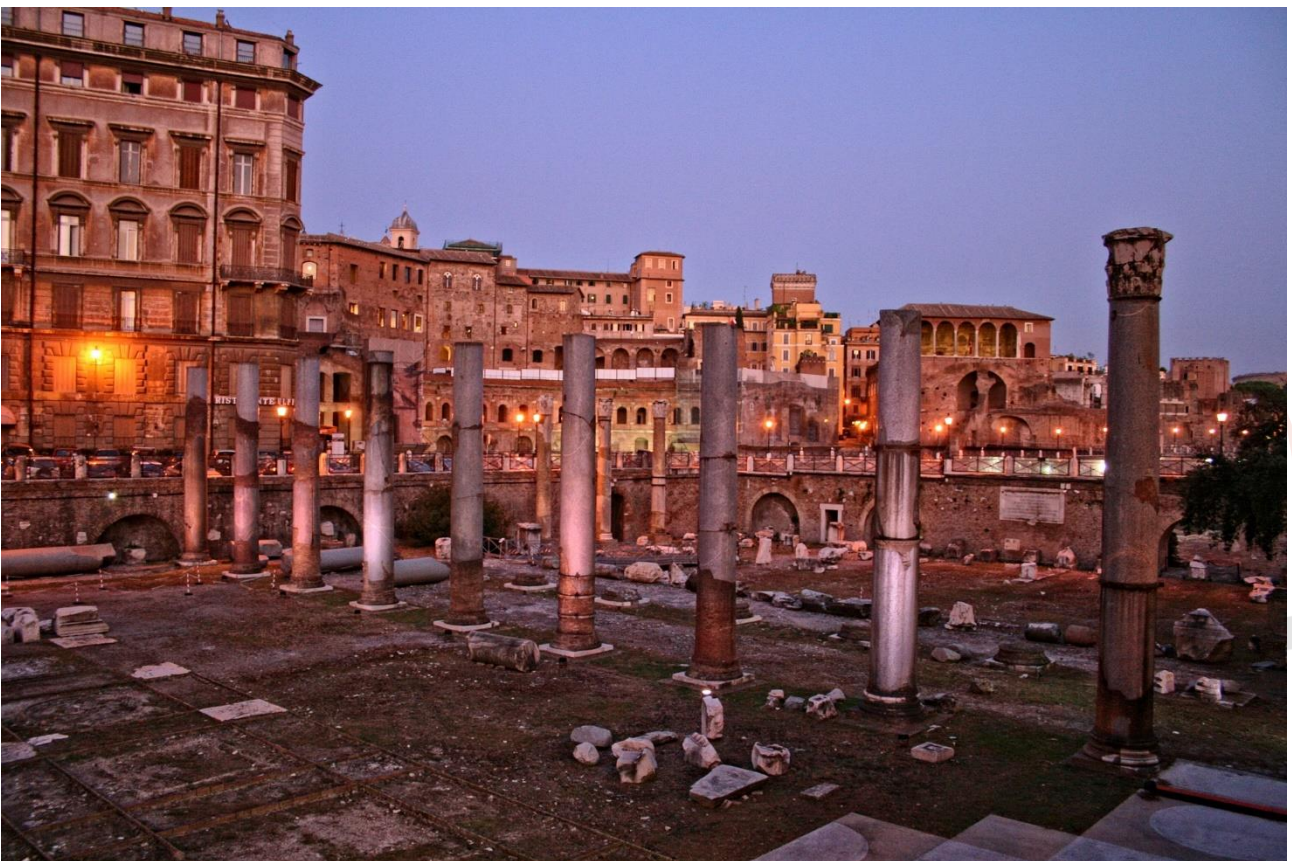
PO-22	Advancing electroporation studies with automated SECM and Machine Learning.	K. Klimaitis
PO-23	Characterization of transferred electrodes obtained with Laser Induced Carbonization Process for EP of adhered cells.	F. Camera
PO-24	Power supply chain with series insulation structure for high voltage Marx pulse generator.	Y. Chen,
PO-116	Hybrid digital-analogue square wave generator for bioelectronics applications.	C. Palego
PO-26	Irreversible electroporation of tethered bilayer membranes by scanning electrochemical microscopy.	T. Sabirovas
PO-25	Scaling of continuous PEF processes by means of dimensionless numbers and computational fluid dynamics (CFD).	J. Knappert
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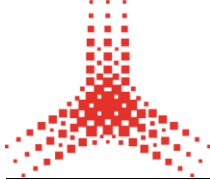

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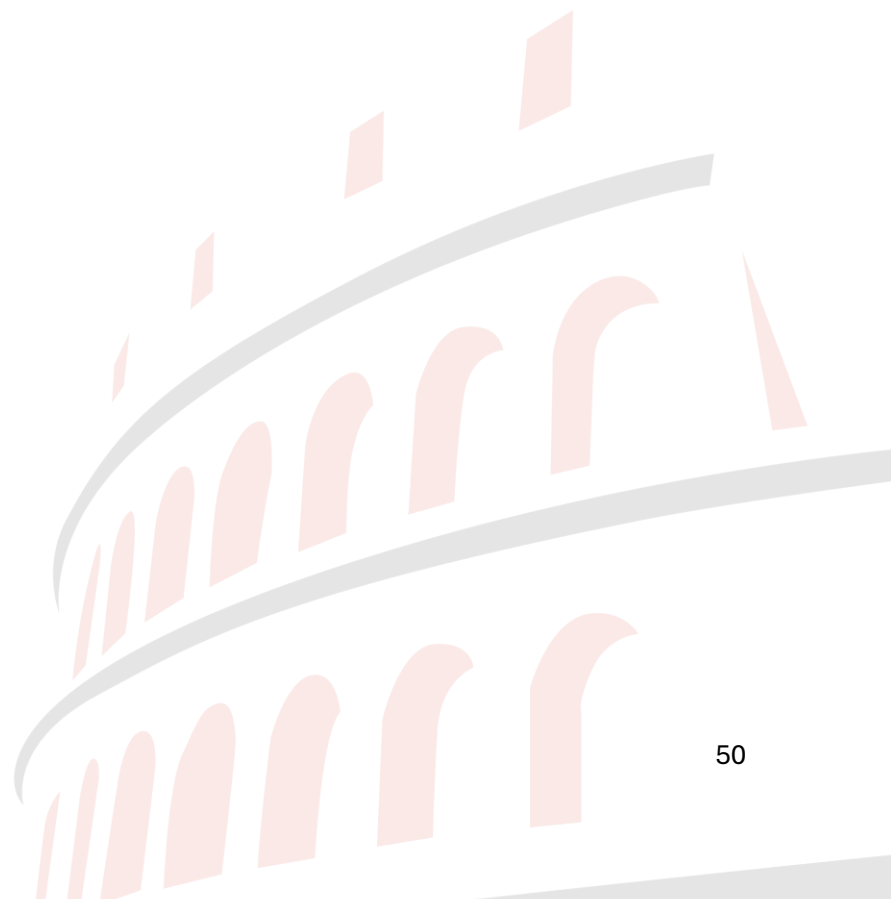
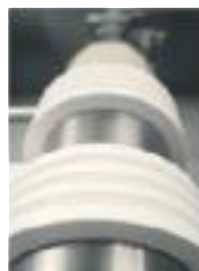
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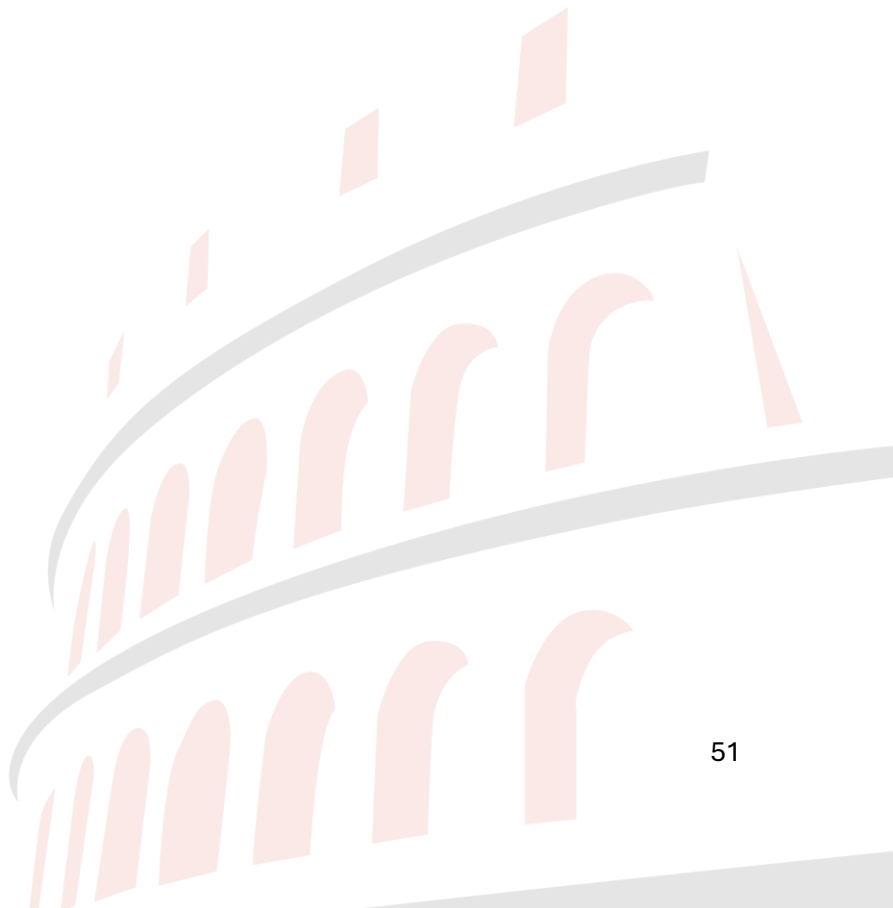
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