

ILMAT 2025

8-12 SEPTEMBER 2025

ROME - ITALY

8TH INTERNATIONAL CONFERENCE ON
IONIC LIQUID-BASED MATERIALS



Programme



Index

ILMAT 2025

VIII International Conference on
Ionic Liquid-Based Materials
8-12 September 2025, Rome, Italy



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Organization

ILMAT2025 is organised by the Department of Chemistry of the University of Rome Sapienza and the Istituto Struttura della Materia of the Italian National Council of Research (CNR-ISM) in Rome (Italy).

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Chairpersons

Prof. Olga Russina

Department of Chemistry of the University of Rome Sapienza (Italy);

Dr. Alessandro Triolo

Laboratorio Liquidi Ionici (LiqIonLab) Istituto Struttura della Materia of the Italian National Council of Research (CNR-ISM) in Rome (Italy)

Organising Committee

Olga Russina
Alessandro Triolo
Franca Rossi
Marco Ortenzi
Carlo Ottaviani
Andrea Laruffa
Emanuela Mangiacapre
Simone Di Muzio
Fabrizio Lo Celso
Annalisa Paolone
Oriele Palumbo
Fabio Ramondo
Francesco Trequattrini



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Alessandro Triolo (ITA)

Margarida Costa Gomes (FR)

Paola D'Angelo (ITA)

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Anna Martinelli (SWE)

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Luis M.N.B.F. Santos (PT)

Christian Schröder (AT)

Andreas Taubert (DE)

L. M. Varela Cabo (ES)



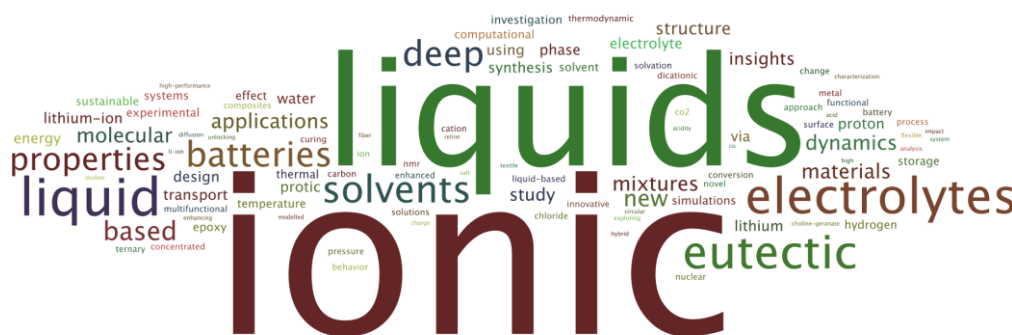
Welcome Address.

We are delighted to welcome the Ionic Liquid (IL) Community at the 8th International Conference on Ionic Liquid Based Materials (ILMAT2025), taking place at the CNR Headquarters in Rome, Italy, from September 8 to 12, 2025!

Over the years, the ILMAT Conferences have earned a growing reputation as a premier platform for scientists exploring both the fundamental aspects and emerging applications of ionic materials. Following the successful footsteps of previous editions in Vienna (2011), Montpellier (2013), Berlin (2015), Santiago de Compostela (2017), Paris (2019), Alsace (2021), and Porto (2023), we are now proud to host the 8th edition in the heart of Rome — a city steeped in history and perfectly suited to inspire scientific exchange and collaboration.

With 125 participants and counting (as of July 23, 2025), ILMAT2025 is set to bring together researchers from Europe, the Americas, Asia, and Oceania, fostering a vibrant and diverse scientific dialogue.

At its core, ILMAT celebrates the remarkable breadth of ionic liquid science. Reflecting the interdisciplinary nature of the field, the conference welcomes contributions from chemists, physicists, materials scientists, engineers, and biologists, all united by a shared passion for IL-based materials. This convergence of disciplines sparks a dynamic exchange of ideas, consistently making ILMAT a thrilling and forward-looking experience. This year's edition will spotlight cutting-edge advances in structural,



dynamic, and thermodynamic properties, electrochemistry, materials science, bio-applications, and sustainability — illustrating the continuous evolution and impact of ionic liquid research.

With this spirit, we look forward to your participation in ILMAT2025, and hope the conference will offer a stimulating, fruitful, and memorable experience for everyone involved.

On behalf of the Organising Committee,

Prof. Olga Russina
Chemistry Dept.; Univ. of Rome Sapienza

ILMAT2025 Chair

Dr. Alessandro Triolo
Istituto Struttura della Materia (CNR-ISM)

ILMAT2025 Chair



Program at glance

Monday 8th September

AULA CONVEGNI FOYER		
13:30	Registration	
AULA CONVEGNI (Session 1)		
	Chair	Russina / Triolo
15:00	Opening	Prof. A. Di Carlo (CNR), Prof. O. Lanzalunga (UniRome Sapienza)
15:30	PL1	S. Passerini "Locally Concentrated Ionic Liquid Electrolytes for High-Energy Batteries"
16:10	KN1	F. Philippi "Ion Aggregates and Their Mobility in Concentrated Electrolytes"
16:30	OP1	E. Paillard "Modifications of lithium metal anodes and ternary polymer electrolytes using ionic liquids for improved lithium metal battery cycling"
16:50	OP2	F. Del Monte "DES-based leachates containing LCO, NMC or NCA oxides as electrolytes for energy storage and conversion"
17:10	OP3	A. Taubert "Zwitterions as building blocks for new self-organized soft matter and ionic liquid crystals"
17:30	OP4	T. Schubert "Ionic liquids as Promising Electrolytes for Metal-Air Batteries"
17:50	OP5	A. Tsurumaki "New application of ionic liquids as the cathode additive for Li-ion batteries"
18:10	OP6	R. Cortes-Huerto "Thermoresponsive ionic liquid/water mixtures: nanostructuring and phase separation in energy and environment applications"
18:30	Welcome Party (TBD)	



Tuesday 9th September (SESSION A)

AULA CONVEGNI		
	Chair	PALUCH
09:00	PL2	S. Dai "Nanoporous Ionic Liquids: Challenges and Opportunities "
09:40	KN2	N. Abdou "Multifunctional structural composites based on a protic ionic liquid: what for?"
AULA CONVEGNI		
	Chair	SCHROEDER
10:00	OP7A	P. Maltoni "Investigation of the Magnetic Properties of Ionic Liquid -based Ferrofluids"
10:20	OP8A	J.-F. Gerard "Back to ionomers by designing ionic liquid nanostructures in polymers"
10:40	Coffee	
AULA CONVEGNI		
	Chair	SANTOS
11:20	OP9A	S. Livi "Design of a new generation of multifunctional degradable and reusable networks "
11:40	OP10A	J. Duchet-Rumeau "Ionic Liquids: relevant solvents to contribute to circular economy of polyvivyl chloride"
12:00	OP11A	P. Hesemann "Ionic Guest in Ionic Host: all-ionic Composites via Ionic Liquid Confinement in Ionosilica Supports"
12:20	OP12A	A. Paolone "Dicationic ionic liquids: synthesis, vapor pressure, thermal and vibrational properties"
12:40	OP13A	O. Cabeza Using hygroscopic character of ionic liquids to make high precision hygrometers"
13:00	Lunch	
AULA CONVEGNI		
	Chair	DEL MONTE
14:10	KN3	D. Paschek "Hydrogen Bonding Motifs in Hydroxy-Functionalized Ionic Liquids and Their Mixtures with Hydrogen Bond Catchers"
AULA CONVEGNI		
	Chair	DEL MONTE
14:30	OP14A	B. Bracco "Insight into the molecular structure on protic ionic liquids"
14:50	OP15A	L. B. Santos "Impact of Nanostructuration on the Transport Properties of Ionic Liquids"
15:10	OP16A	T. Mendez-Morales "Effect of the cation aromaticity upon the structure of ionic liquids near carbon surfaces: a computational study"
15:30	OP17A	M. Busato "Impact of Cosolvent on Co ²⁺ Ion Speciation in 'Reline' Deep Eutectic Solvent"
15:50	OP18A	E. Rezabal "Structure and solvation behavior of Choline-Geranate: Insights into Drug Delivery"
16:10	Coffee & Poster Session A	
AULA CONVEGNI		
	Chair	PALUMBO
17:00	OP19A	M. Paluch "Understanding of charge transport mechanism in ionic liquids and their macromolecular counterparts"
17:20	OP20A	A. Idrissi "Spatial organization of the ions at the free surface of imidazolium-based ionic liquids "
17:40	OP21A	S. Mattedi "Sustainable printed electrodes based on graphene and ionic liquids"
18:00	OP22A	S. Russo "Polarizable Molecular Dynamics of Biocompatible Ionic Liquids "



Tuesday 9th September (SESSION B)

AULA CONVEGNI		
	Chair	PALUCH
09:00	PL2	S. Dai "Nanoporous Ionic Liquids: Challenges and Opportunities "
09:40	KN2	N. Abdou "Multifunctional structural composites based on a protic ionic liquid: what for?"
AULA MARCONI		
	Chair	MONTES-CAMPOS
10:00	OP7B	X. Sun "Advancing Textile Sustainability: Fiber Recycling and Circular Dyeing from Multi-Component Textile Waste via Ionic Liquids"
10:20	OP8B	G. A. Bracchini "Urea-Zinc Chloride DES as a precursor for the synthesis of room temperature afterglow phosphorescent materials"
10:40	Coffee	
AULA MARCONI		
	Chair	DRACOPOULOS
11:20	OP9B	A. Miguez-Roel "Interfacial Analysis of a Ternary Ionic Liquid Electrolyte with Water and Lithium Salt: A Computational Study"
11:40	OP10B	E. Mangiacapre "PET Dissolution in bio-based eutectic solvents: Experimental findings and MD"
12:00	OP11B	L. Simonnet "Metal Ionic Liquids (MILs) as new catalytic curing agents of epoxy prepolymer for the design of high-performance materials"
12:20	OP12B	R. Almeida "Enhancing solar collector efficiency through melanin particles from human hair and unlocking the potential of ionic liquids as heat transfer fluids"
12:40	OP13B	M. Otero-Lema "Anomalous transport in mixtures of protic ILs: a computational study"
13:00	Lunch	
AULA CONVEGNI		
	Chair	DEL MONTE
14:10	KN3	D. Paschek "Hydrogen Bonding Motifs in Hydroxy-Functionalized Ionic Liquids and Their Mixtures with Hydrogen Bond Catchers"
AULA MARCONI		
	Chair	YUOSFI
14:30	OP14B	K. Aidas "Structural and NMR properties of ILs systems modelled by an integrated MD-QM/MM approach"
14:50	OP15B	N. Rafique "(Deep) Eutectic Solvents as Phase Change Materials for Thermal Energy Storage"
15:10	OP16B	O. Bocés "Functional ionic liquids for the (electro)enzymatic conversion of CO2 to formate"
15:30	OP17B	L. M. Kaljusmann "Vapour pressure measurements of [2-HEAA] and [bis-2-HEAA] and their mixtures with water by thermal analysis"
15:50	OP18B	I. Souza "Distinctive strategies of ionic liquids in polymeric membranes for indoor air quality"
16:10	Coffee & Poster Session A	
AULA MARCONI		
	Chair	AIDAS
17:00	OP19B	A. Renzonnet "Hammett acidity functions via Raman spectroscopy as a tool to probe the acidity levels of ionic liquids"
17:20	OP20B	A. Lunot "Design of a Proton Exchange Membrane Using ILs Structured in a PVDF Matrix"
17:40	OP21B	E. Pelegano-Titmuss "Dynamics of Pyrazole-LiTFSI Eutectic Solvents as Promising Lithium-Ion Battery Electrolytes"
18:00	OP22B	A. M. Czarska "To the thermodynamic origins of “deep eutectic” behavior: experimental determination of urea activity in reline by effusion-based techniques"



Wednesday 10th September (SESSION A)

AULA CONVEGNI		
	Chair	HESEMANN
09:00	PL3	A. V. Mudring "Ionic Liquids as Smart Solvents for Nanomaterials Syntheses"
09:40	KN4	M. L. Ferrer "Lessons from DESs to Design Novel Electrolytes for Electrochemical Energy Storage"
10:00	OP23	K. Goloviznina "Oxide speciation and dynamics in molten chloride salt-based nuclear fuel"
10:20	OP24	S. Kondrat "Low-dimensional Ionotronics: New Insights from Old Models"
10:40	Coffee & Poster Session B	
AULA CONVEGNI		
	Chair	PHILIPPI
11:30	KN5	Z. Wojnarowska Self-Assembled Nanostructures in Aprotic Ionic Liquids Facilitate Charge Transport at Elevated Pressure""
AULA CONVEGNI		
	Chair	PHILIPPI
11:50	OP25A	S. Legeai "Electrowinning-Electrodeposition Process development for Selective Separation of Noble Metals from Waste-Electronic-Equipments in DES"
12:10	OP26A	S. Romano "Effect of Mono- and Dicationic Ionic Liquids on Starch Film Properties for Flexible Supercapacitor Devices "
12:30	OP27A	B. Iliev "Ionic liquid mediated polymer dissolution and conversion to value added products "
12:50	OP28A	E. Auffret "Molten salt treatment process for recycling nuclear cladding"
13:10	Lunch	
14:15	Group Photo	
14:30	Social Programme (TBD)	



Wednesday 10th September (SESSION B)

AULA CONVEGNI		
	Chair	HESEMANN
09:00	PL3	A. Mudring "Ionic Liquids as Smart Solvents for Nanomaterials Syntheses"
09:40	KN4	M. L. Ferrer "Lessons from DESs to Design Novel Electrolytes for Electrochemical Energy Storage"
10:00	OP23	K. Goloviznina "Oxide speciation and dynamics in molten chloride salt-based nuclear fuel"
10:20	OP24	S. Kondrat "Low-dimensional Ionotronics: New Insights from Old Models"
10:40	Coffee & Poster Session B	
AULA CONVEGNI		
	Chair	PHILIPPI
11:30	KN5	Z. Wojnarowska Self-Assembled Nanostructures in Aprotic Ionic Liquids Facilitate Charge Transport at Elevated Pressure""
AULA MARCONI		
	Chair	PAOLONE
11:50	OP25B	J. Lopez De Lacalle "Multifunctional ionic polymers from deep eutectic monomer based on polyphenols"
12:10	OP26B	I. Fabrizi "Imidazole based Deep Eutectic Solvents: How ring substituent affects the chemical physical properties of binary mixtures"
12:30	OP27B	I. Bengtsson "Ionic liquid conductivity modelled by machine learning and symbolic regression "
12:50	OP28B	R. Lois-Cuns "Exploring the nanoscale behaviour of confined water-in-salt mixtures in zeolite-templated carbons"
13:10	Lunch	
14:15	Group Photo	
14:30	Social Programme (TBD)	



Thursday 11th September

AULA CONVEGNI		
	Chair	MARTINELLI
09:00	PL4	T. Greaves "Biomolecules in Ionic Liquids"
09:40	KN6	K. Bica-Schröder "Ionic liquid-based materials driving photocatalytic carbon dioxide valorization"
10:00	OP29	A. Wolny "Sustainable biocatalytic system for efficient esterification: Immobilized lipase in deep eutectic solvent"
10:20	OP30	L. Branco "Ionic Systems for Bio-Science Applications"
10:40	Coffee	
AULA CONVEGNI		
	Chair	ABDOU
11:20	OP31	A. Mirjafari "Design Principles of Functional Ionic Liquids for High Temperature Applications "
11:40	OP32	A. Mezzetta "The lignin side of Ionic Liquids: novel corrosion inhibitors"
12:00	OP33	V. Dracopoulos "Amino acid-based ionic liquids (AAILs) investigation for an industrial CO2-assimilating anaerobe process"
12:20	OP34	M. Yousfi "In-situ (Nano) fibrillation of biopolymer blends based on poly(butylene-adipate-co-terephthalate)/poly(lactic acid) (PBAT/PLA) : effect of ethan-1-aminium ionic liquids on rheological, mechanical and barrier properties"
12:40	OP35	A. Puga "Carboxylate ionic liquid hydrates as CO2 sorbent materials exhibiting amine-like efficiencies"
13:00	Lunch	
AULA CONVEGNI		
	Chair	MENDEZ-MORALES
14:10	KN7	H. Montes Campos "Simulation of Proton Transfer Reactions in Ionic Liquids Using Neural Network Force Fields"
14:30	OP36	S. Di Muzio "Tetrabutylammonium based deep eutectic solvents: role of counter-anion and H-bond donor in the stabilization of liquid phase"
14:50	OP37	C. Schröder "Reactive molecular dynamics simulations: Proton transfers in protic ionic liquids"
15:10	OP38	O. Palumbo "Dynamic processes in highly concentrated electrolytes"
15:30	OP39	M. Paolantoni "Revisiting the State of Water in [BMIM][BF4] Aqueous Solutions"
15:50	OP40	M. A. Salvador Pyrrolidinium-based Ionic Liquid Electrolyte Solutions for Application in Li-Ion Batteries: A Molecular Dynamics Approach"
16:10	Coffee & Chat	
16:45	ESIM Meeting	
20:00	SOCIAL DINNER (TBD)	



Friday 12th September

AULA CONVEGNI		
	Chair	GUAZZELLI
09:00	PL5	F. D'Anna "Ionic liquid gels as tools to confine ionic liquids and boost their applications"
09:40	KN8	G. de Araujo "Uncovering Relaxation Mechanisms in Ionic Liquids, Electrolytes, and Ionogels via Nuclear Magnetic Resonance Dispersion"
10:00	OP41	R. Silva "The Fluorination Effect on the Properties of Ionic Liquids"
10:20	OP42	F. Mouillard "Thermoplasticization of Paramylon by Biobased Ionic Liquids"
10:40	OP43	L. M. Varela "Hydrogen absorption in ionic liquids: computer simulations of water dissociation and proton transport"
11:00	Coffee	
AULA CONVEGNI		
	Chair	VARELA
11:30	Lynden-Bell Award	J. A. P. Coutinho "When did the chicken cross the Path?"
12:10	Prizes	
12:30	Concluding Ceremony	



Detailed Program

Monday 8th September – Opening Full Session (AULA CONVEGNI)

13:30 – Registration

“Participant registration”

Session 1 [Energy and Electrochemistry Applications]

Chairs: O. Russina / A. Triolo

15:00 – Opening

Prof. A. Di Carlo (CNR), Prof. O. Lanzalunga (UniRome Sapienza)

“Welcome remarks”

15:30 – PL1

S. Passerini

“Locally Concentrated Ionic Liquid Electrolytes for High-Energy Batteries”

16:10 – KN1

F. Philippi

“Ion Aggregates and Their Mobility in Concentrated Electrolytes”

16:30 – OP1

E. Paillard

“Modifications of lithium metal anodes and ternary polymer electrolytes using ionic liquids for improved lithium metal battery cycling”

16:50 – OP2

F. Del Monte

“DES-based leachates containing LCO, NMC or NCA oxides as electrolytes for energy storage and conversion”

17:10 – OP3

A. Taubert

“Zwitterions as building blocks for new self-organized soft matter and ionic liquid crystals”

17:30 – OP4

T. Schubert

“Ionic liquids as Promising Electrolytes for Metal-Air Batteries”



17:50 – OP5

A. Tsurumaki

“New application of ionic liquids as the cathode additive for Li-ion batteries”

18:10 – OP6

R. Cortes-Huerto

“Thermoresponsive ionic liquid/water mixtures: nanostructuring and phase separation in energy and environment applications”

18:30 – Welcome Event

“Welcome Party (TBD)”



Tuesday 9th September – Parallel Session A (AULA CONVEGNI)

Session 2 (Material Science Applications)

Chair: Paluch

09:00 – PL2

S. Dai

“Nanoporous Ionic Liquids: Challenges and Opportunities”

09:40 – KN2

N. Abdou

“Multifunctional structural composites based on a protic ionic liquid: what for?”

Chair: Schröder

10:00 – OP7A

P. Maltoni

“Investigation of the Magnetic Properties of Ionic Liquid-based Ferrofluids”

10:20 – OP8A

J.-F. Gerard

“Back to ionomers by designing ionic liquid nanostructures in polymers”

10:40 – Coffee break

Chair: Santos

11:20 – OP9A

S. Livi

“Design of a new generation of multifunctional degradable and reusable networks”

11:40 – OP10A

J. Duchet-Rumeau

“Ionic Liquids: relevant solvents to contribute to circular economy of polyvinyl chloride”

12:00 – OP11A

P. Hesemann

“Ionic Guest in Ionic Host: all-ionic Composites via Ionic Liquid Confinement in Ionosilica Supports”

**12:20 – OP12A***A. Paolone*

“Dicationic ionic liquids: synthesis, vapor pressure, thermal and vibrational properties”

12:40 – OP13A*O. Cabeza*

“Using hygroscopic character of ionic liquids to make high precision hygrometers”

13:00 – Lunch

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Session 3 [Fundamental research]*Chair: Del Monte***14:10 – KN3***D. Paschek*

“Hydrogen Bonding Motifs in Hydroxy-Functionalized Ionic Liquids and Their Mixtures with Hydrogen Bond Catchers”

14:30 – OP14A*B. Bracco*

“Insight into the molecular structure on protic ionic liquids”

14:50 – OP15A*L. B. Santos*

“Impact of Nanostructuration on the Transport Properties of Ionic Liquids”

15:10 – OP16A*T. Mendez-Morales*

“Effect of the cation aromaticity upon the structure of ionic liquids near carbon surfaces: a computational study”

15:30 – OP17A*M. Busato*

“Impact of Cosolvent on Co^{2+} Ion Speciation in 'Reline' Deep Eutectic Solvent”

15:50 – OP18A*E. Rezabal*

“Structure and solvation behavior of Choline-Geranate: Insights into Drug Delivery”

16:10 – Coffee & Poster Session A



Session 4 (Fundamental research)

Chair: Palumbo

17:00 – OP19A

M. Paluch

“Understanding of charge transport mechanism in ionic liquids and their macromolecular counterparts”

17:20 – OP20A

A. Idrissi

“Spatial organization of the ions at the free surface of imidazolium-based ionic liquids”

17:40 – OP21A

S. Mattedi

“Sustainable printed electrodes based on graphene and ionic liquids”

18:00 – OP22A

S. Russo

“Polarizable Molecular Dynamics of Biocompatible Ionic Liquids”

**Tuesday 9th September – Parallel Session B (AULA MARCONI)****Session 5 (Material Science Applications)***Chair: Montes-Campos***10:00 – OP7B***X. Sun*

“Advancing Textile Sustainability: Fiber Recycling and Circular Dyeing from Multi-Component Textile Waste via Ionic Liquids”

10:20 – OP8B*G. A. Bracchini*

“Urea-Zinc Chloride DES as a precursor for the synthesis of room temperature afterglow phosphorescent materials”

10:40 – Coffee break*Chair: Dracopoulos***11:20 – OP9B***A. Miguez-Roel*

“Interfacial Analysis of a Ternary Ionic Liquid Electrolyte with Water and Lithium Salt: A Computational Study”

11:40 – OP10B*E. Mangiacapre*

“PET Dissolution in bio-based eutectic solvents: Experimental findings and molecular simulations”

12:00 – OP11B*L. Simonnet*

“Metal Ionic Liquids (MILs) as new catalytic curing agents of epoxy prepolymer for the design of high-performance materials”

12:20 – OP12B*R. Almeida*

“Enhancing solar collector efficiency through melanin particles from human hair and unlocking the potential of ionic liquids as heat transfer fluids”

12:40 – OP13B*M. Otero-Lema*

“Anomalous transport in mixtures of protic ionic liquids: a computational study”



13:00 – Lunch

Session 6 (Fundamental research)

Chair: Yousfi

14:30 – OP14B

K. Aidas

“Structural and NMR properties of ionic liquid systems modelled by an integrated MD-QM/MM approach”

14:50 – OP15B

N. Rafique

“(Deep) Eutectic Solvents as Phase Change Materials for Thermal Energy Storage”

15:10 – OP16B

O. Boces

“Functional ionic liquids for the (electro)-enzymatic conversion of CO₂ to formate”

15:30 – OP17B

L.M. Kaljusmann

“Vapour pressure measurements of [2-HEAA] and [bis-2-HEAA] and their mixtures with water by thermal analysis”

15:50 – OP18B

I. Souza

“Distinctive strategies of ionic liquids in polymeric membranes for indoor air quality”

16:10 – Coffee & Poster Session A



Session 7 (Material Science Applications)

Chair: Aidas

17:00 – OP19B

A. Renzonnet

“Hammett acidity functions via Raman spectroscopy as a tool to probe the acidity levels of ionic liquids”

17:20 – OP20B

A. Lunot

“Design of a Proton Exchange Membrane Using Ionic Liquids Structured in a PVDF Matrix”

17:40 – OP21B

E. Pelegano-Titmuss

“Dynamics of Pyrazole-LiTFSI Eutectic Solvents as Promising Lithium-Ion Battery Electrolytes”

18:00 – OP22B

A. M. Czerska

“To the thermodynamic origins of “deep eutectic” behavior: experimental determination of urea activity in reline by effusion-based techniques”



Wednesday 10th September – Parallel Session A (AULA CONVEGNI)

Session 8 [Material Science Applications]

Chair: Hesemann

09:00 – PL3

A. V. Mudring

“Ionic Liquids as Smart Solvents for Nanomaterials Syntheses”

09:40 – KN4

M. L. Ferrer

“Lessons from DESs to Design Novel Electrolytes for Electrochemical Energy Storage”

10:00 – OP23

K. Goloviznina

“Oxide speciation and dynamics in molten chloride salt-based nuclear fuel”

10:20 – OP24

S. Kondrat

“Low-dimensional Ionotronics: New Insights from Old Models”

10:40 – Coffee & Poster Session B

Session 9 [Material Science Applications]

Chair: Philippi

11:30 – KN5

Z. Wojnarowska

“Self-Assembled Nanostructures in Aprotic Ionic Liquids Facilitate Charge Transport at Elevated Pressure”

11:50 – OP25A

S. Legeai

“Electrowinning-Electrodeposition Process development for Selective Separation of Noble Metals from Waste-Electronic-Equipments in DES”

12:10 – OP26A

S. Romano

“Effect of Mono- and Dicationic Ionic Liquids on Starch Film Properties for Flexible Supercapacitor Devices”



12:30 – OP27A

B. Iliev

“Ionic liquid mediated polymer dissolution and conversion to value added products”

12:50 – OP28A

E. Auffret

“Molten salt treatment process for recycling nuclear cladding”

13:10 – Lunch

14:30 Social Programme



Wednesday 10th September – Parallel Session B (AULA MARCONI)

Session 10 (Fundamental research)

Chair: Paolone

11:50 – OP25B

J. Lopez De Lacalle

“Multifunctional ionic polymers from deep eutectic monomer based on polyphenols”

12:10 – OP26B

I. Fabrizi

“Imidazole based Deep Eutectic Solvents: How ring substituent affects the chemical physical properties of binary mixtures”

12:30 – OP27B

I. Bengtsson

“Ionic liquid conductivity modelled by machine learning and symbolic regression”

12:50 – OP28B

R. Lois-Cuns

“Exploring the nanoscale behaviour of confined water-in-salt mixtures in zeolite-templated carbons”

13:10 – Lunch

14:15 – Group Photo

14:30 - Social Programme



Thursday 11th September – Full Session (AULA CONVEGNI)

Session 11 (Bio-science applications)

Chair: Martinelli

09:00 – PL4

T. Greaves

“Biomolecules in Ionic Liquids”

09:40 – KN6

K. Bica-Schröder

“Ionic liquid-based materials driving photocatalytic carbon dioxide valorization”

10:00 – OP29

A. Wolny

“Sustainable biocatalytic system for efficient esterification: Immobilized lipase in deep eutectic solvent”

10:20 – OP30

L. Branco

“Ionic Systems for Bio-Science Applications”

10:40 – Coffee break

Chair: Abdou

11:20 – OP31

A. Mirjafari

“Design Principles of Functional Ionic Liquids for High Temperature Applications”

11:40 – OP32

A. Mezzetta

“The lignin side of Ionic Liquids: novel corrosion inhibitors”

12:00 – OP33

V. Dracopoulos

“Amino acid-based ionic liquids (AAILs) investigation for an industrial CO₂-assimilating anaerobe process”

12:20 – OP34

M. Yousfi

“In-situ (Nano) fibrillation of biopolymer blends based on PBAT/PLA: effect of ethan-1-aminium ionic liquids on rheological, mechanical and barrier properties”



12:40 – OP35

A. Puga

“Carboxylate ionic liquid hydrates as CO₂ sorbent materials exhibiting amine-like efficiencies”

13:00 – Lunch

Session 12 (Fundamental research)

Chair: Mendez-Morales

14:10 – KN7

H. Montes Campos

“Simulation of Proton Transfer Reactions in Ionic Liquids Using Neural Network Force Fields”

14:30 – OP36

S. Di Muzio

“Tetrabutylammonium based deep eutectic solvents: role of counter-anion and H-bond donor in the stabilization of liquid phase”

14:50 – OP37

C. Schröder

“Reactive molecular dynamics simulations: Proton transfers in protic ionic liquids”

15:10 – OP38

O. Palumbo

“Dynamic processes in highly concentrated electrolytes”

15:30 – OP39

M. Paolantoni

“Revisiting the State of Water in [BMIM][BF₄] Aqueous Solutions”

15:50 – OP40

M. A. Salvador

“Pyrrolidinium-based Ionic Liquid Electrolyte Solutions for Application in Li-Ion Batteries: A Molecular Dynamics Approach”

16:10 – Coffee & Chat

16:45 – ESIM Meeting

“ESIM General Meeting”

ILMAT 2025

VIII International Conference on
Ionic Liquid-Based Materials
8-12 September 2025, Rome, Italy



20:00 – Social Dinner

Dinner @ The Hive, Via Torino 6, 00184 Roma



Friday 12th September – Closing Full Session (AULA CONVEGNI)

Session 12 (Material Science applications)

Chair: Guazzelli

09:00 – PL5

F. D'Anna

“Ionic liquid gels as tools to confine ionic liquids and boost their applications”

09:40 – KN8

G. de Araujo

“Uncovering Relaxation Mechanisms in Ionic Liquids, Electrolytes, and Ionogels via Nuclear Magnetic Resonance Dispersion”

10:00 – OP41

R. Silva

“The Fluorination Effect on the Properties of Ionic Liquids”

10:20 – OP42

F. Mouillard

“Thermoplasticization of Paramylon by Biobased Ionic”

10:40 – OP43

L. M. Varela

“Hydrogen absorption in ionic liquids: computer simulations of water dissociation and proton transport”

11:00 – Coffee Break

Chair: Varela

11:30 – Lynden-Bell Award

J. A. P. Coutinho

“When did the chicken cross the Path?”

12:30 – Awards

“Conference Prizes”

12:30 - Closing Ceremony

“Farewell”



Poster Session A

Tuesday 9th September 16:10-17:00

Index	Author	Title
PA-1	T. T. Borović	Advances in Electrolyte Additives for Enhanced Performance of Lithium-Ion Batteries
PA-2	A. M. Czerska	Thermodynamic investigation of ionic components of Type III DES by vapor pressure measurements and ab initio calculations
PA-3	L. A. Follegatti Romero	Neat synthesis of [DBUH][2MIM] and identification via Carbon and Hydrogen NMR
PA-4	E. Formoso Estensoro	Solute–Solvent Interactions in Choline–Geranate: Structure and Solvation Pattern of a Collagen-Mimetic Peptide
PA-5	D. Goste	Modeling thermodynamic properties of mixtures of water and functionalized 1,3-dialkylimidazolium ionic liquids with PC-SAFT
PA-6	L. Hernandez-Fernandez	Solvation Behavior of Choline-Geranate: Insights into Organometallic Anticancer Drug Delivery
PA-7	J. Ingenmey	Structure–Diffusion in a Ternary Protic System: Tuning the Proton Mobility in [HMIIm][Ac]–H ₂ O
PA-8	S. Kitaoka	Synthesis and properties of GABA-based ionic liquids and deep eutectic solvents
PA-9	R. Macias-Salinas	A Surface-Tension Model for Ionic Liquids Based on the Gradient Theory
PA-10	E. Mangiacapre	Beyond water: Aquoline, a versatile wbDES for host-guest and self-assembly systems
PA-11	S. Mattedi	Study on cation effect on decanoate ionic liquids self-assembly properties through isothermal titration calorimetry experiments
PA-12	Z. Murnikova	Study of Enhanced Solubility of Glibenclamide in Aqueous Ionic Liquid Solutions
PA-13	K. Nobuoka	Solvent Effects of Imidazolium Ionic Liquids on Optical Properties of π -Electron Extended Rhodamine Dye ABPX
PA-14	D. Paolini	Optimizing device configuration for enhanced supercapacitor performance
PA-15	R. Pollet	Diffusion studies of water-in-salt electrolytes using molecular dynamics simulations and Static Field Gradient (SFG) quadrupolar NMR
PA-16	F. Ramondo	Deep Eutectic Solvents on graphene oxide surface: lighting from experimental and computational jointed investigation
PA-17	M. A. Salvador	Molecular modeling studies on the effect of polymer-electrolyte interactions in the Li-ion diffusion
PA-18	L. Silvestri	Thermodynamic study of evaporation and thermal decomposition of dicationic aprotic ionic liquids with a symmetrical imidazolium cation
PA-19	F. Trequattrini	p-toluenesulfonic acid monohydrate-Tetrabutylammonium salts systems: detection and characterization of deep eutectic solvents
PA-20	L. Villa	A Metal-Free approach to CO ₂ valorization: Unlocking the potential of ionic liquids and organic photosensitizers



Poster Session B

Wednesday 10th September 10:40-11:30

Index	Author	Title
PB-1	D. Ariaudo	Innovative ionic liquid-based electrolytes for sodium ion batteries
PB-2	M. Campoverde	Exploring Pyrazole Eutectic Solvents as Sustainable Alternatives for Lithium-Ion Batteries
PB-3	E. De Santis	Innovative ionic liquid electrolyte technologies for enhancing the safety and reliability of lithium battery systems in harsh operating conditions
PB-4	M. Di Pea	Innovative ionic liquid-based electrolytes for Li batteries applications
PB-5	B. J. Gomes de Matos da Costa e Silva	Use of [2HEA] and [DBU] ionic liquids as electrolytes for ammonia electrooxidation
PB-6	U. H. Ishaque	Advancing Capacitive Energy Storage with Quaternary Electrolytes
PB-7	T. H. Jeong	Engineering Tri-Metal Hybrid-Modified Separators for High-Performance Lithium–Sulfur Batteries: Mechanistic Insights and Practical Applications
PB-8	M. Królikowska	Eutectic phase change materials based on novel ionic liquids: synthesis and characterization.
PB-9	M. Królikowski	Investigation of eutectic phase change materials composed of diols and ionic liquids. Experimental study and correlations
PB-10	A. Nikolopoulou	Bio-inspired ionic liquids for reversible CO ₂ capture
PB-11	S. Papović	The new ionic additives for safer and durable electrolytes in lithium-ion batteries
PB-12	G. Park	A Flexible and Scalable NASICON-Structured LiZr ₂ (PO ₄) ₃ Hybrid Solid Electrolyte for High-Voltage Lithium-Based Hybrid Batteries
PB-13	S. Reigl	Concept and Applications of Metal-Based COMPLET Ionic Liquids
PB-14	C. Rizzi	To have and have not ... an ionic liquid grafting rate control in composite material for lithium-ion batteries anode
PB-15	C. Samuels	Molecular Level Insights on The Gelation Influence on the Dynamics of Sustainable Eutectogels
PB-16	M. Smiglak	Cellulose dissolved in ionic liquids as in situ generated filler in epoxy biocomposites with simultaneous curing initiated by ionic liquids
PB-17	A. Szpecht	Influence of cation structure with allyl group and different anions on the glass transition and heat deflection temperatures of fiber reinforced epoxy composites
PB-18	A. Zajac	New Surface Passivating Ionogel Technology for Mesa-Type Detector Structures (PASION project)
PB-19	D. Zielinski	New Insights into Epoxy Resin Curing: Functional Coatings with Anilinium-Derived Ionic Liquids
PB-20	G. Tatrari	Fluorine-Free Heterocyclic Anions-Based Ionic Liquid Electrolytes for Variable Temperature Supercapacitors.
PB-21	A. Triolo	5-Hydroxymethylfurfural (HMF): structural organization and solubility in selected DES.