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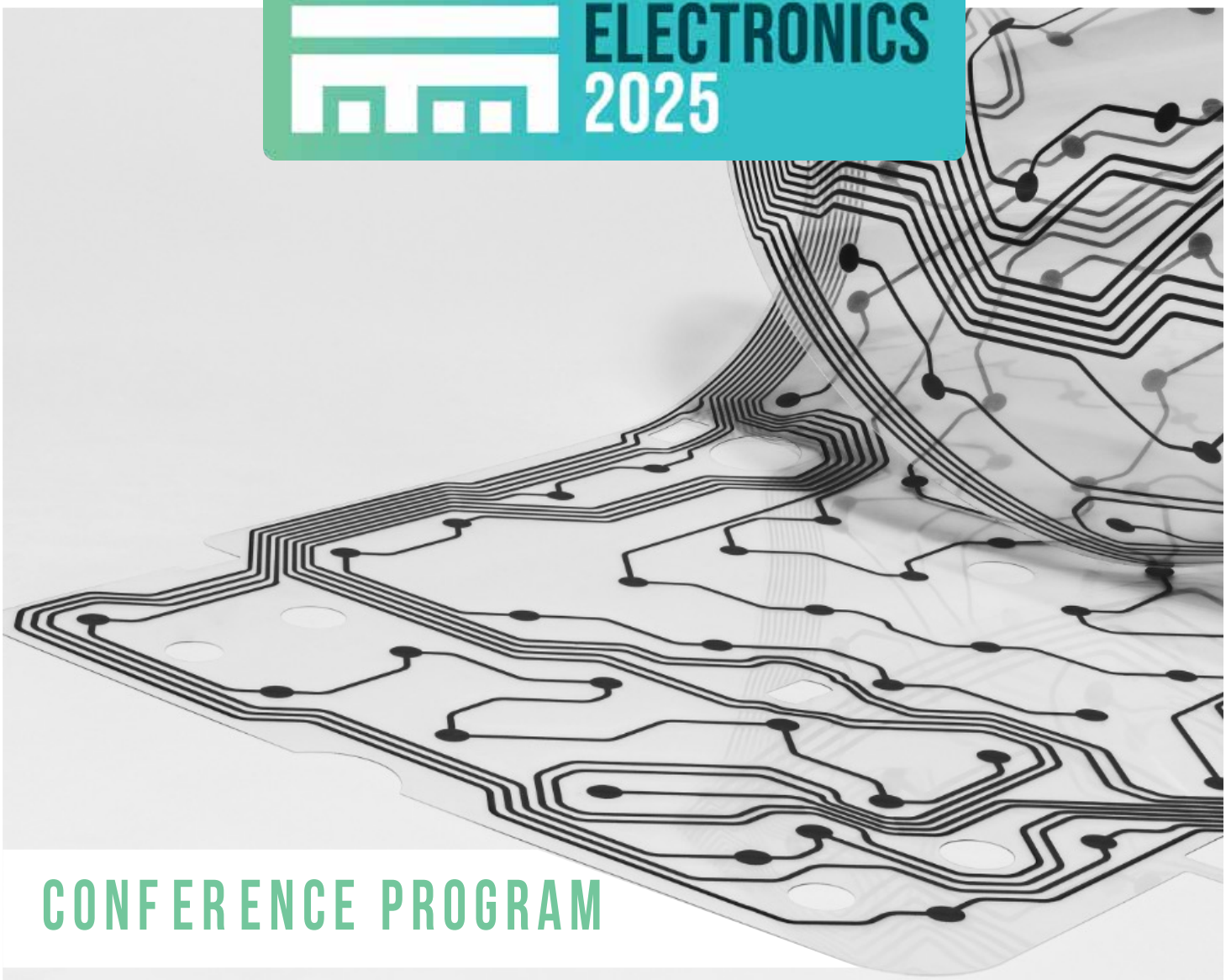
SUSTAINABLE PRINTED ELECTRONICS 2025



CONFERENCE PROGRAM

TUESDAY 23RD TO THURSDAY 25TH OF SEPTEMBER 2025

KEDEA BUILDING,
ARISTOTLE UNIVERSITY OF THESSALONIKI, GREECE

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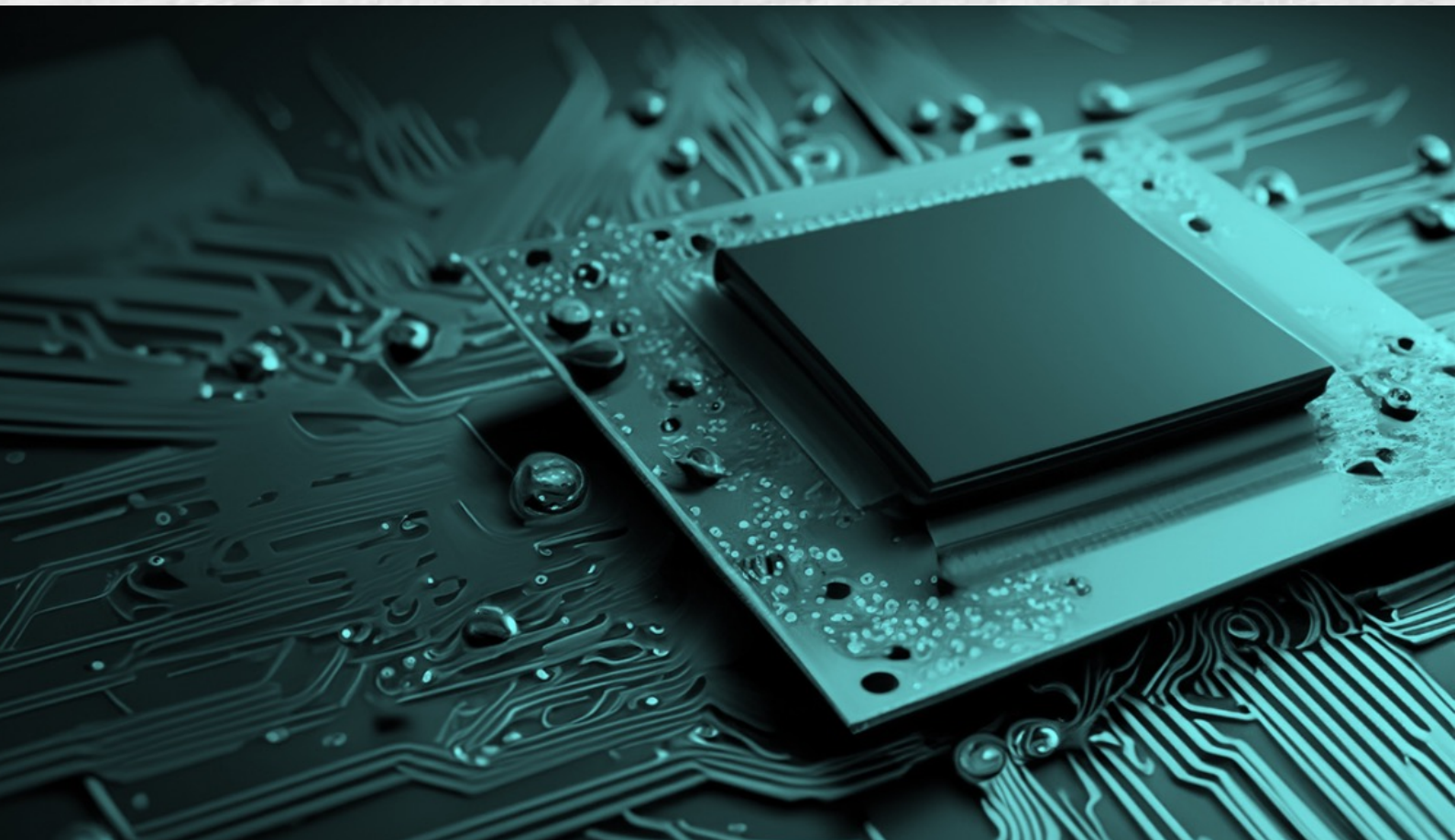
SESSIONS

SESSIONS AND THEMATIC AREAS

1.	**Prof. Gianmarco Griffini** (Politecnico di Milano)	Printed electronics & manufacturing
2.	**Prof. George Hadziioannou** (University of Bordeaux)	Advanced Materials for PE
3.	**Anna Marie Gorman** (CPI)	Ink formulations
4.	**Dr. Zachary J. Davis** (Danish Technological Institute)	Clustering Session
5.	**Dr. Panteleimon Panagiotou** (BayFor)	Sustainability Circularity, SSbD, market and end of life
6.	**Prof. Nikos Pleros** (Aristotle University of Thessaloniki)	Devices applications



1. PRINTED ELECTRONICS & MANUFACTURING

This session will cover the latest advancements in the manufacturing processes of printed electronics, including techniques like inkjet printing, screen printing, and gravure printing. It will also discuss the integration of electronic components onto various substrates.

Session 1 Key Words - flexible electronics, organic Electronics, Thin-film electronics Conductive synthetics/polymer electronics, 3D structural electronics, large-area electronics, printing Technologies, Inkjet printing, aerosol-jet printing, electrohydrodynamic printing, screen printing, printing processes - additive manufacturing, self-assembly manufacturing, 3D printing, roll-to-roll manufacturing.

2. ADVANCED MATERIALS FOR PE

This session will focus on the development and use of advanced materials in printed electronics, such as conductive polymers, nanomaterials, and flexible substrates. It will explore how these materials enhance the performance and functionality of printed electronic devices.

Session 2 Key Words - Organic, inorganic, Metallic Nanoparticle Ink, carbon dots, graphene, multiwalled nanotubes, conductive polymers, nanocomposites, doped semiconductors, printed substrates, Polymers and their composites for flexible electronics, PET PLA substrates, PDMS, TPU, other polymers, Conductive polymers and polymeric composites, Bio-Based Polymeric Substrates.

3. INK FORMULATIONS

This session will delve into the formulation of inks used in printed electronics, including the selection of materials, the impact of different formulations on device performance, and the challenges associated with achieving consistent and high-quality prints.

Session 3 Key Words – functional materials and nanomaterials, conductivity, adhesives, curing methods, green solvents, 2D-Material Ink, D-Material Ink, Molecular Ink, UV-Curable Ink, solvent-based materials, functional inks, functional inks with sustainable and biobased polymer Metal Oxide Nanoparticle Ink, Liquid Metal-Based Inks, Direct Ink Writing (DIW), Solution Processing Techniques.

4. CLUSTERING SESSION

This session will include insightful presentations from several EU-funded project active in the field of the development of printed electronics, among which Sustain-a-print, SUINK, CircEL Paper, HyPELignum and REFORM EU projects will be highlighted.

Session 4 Key Words - flexible electronics, stretchable electronics, circular economy, green manufacturing, conductive inks, Sustainable circuit boards, additive manufacturing, functional electronics.

5. SUSTAINABILITY CIRCULARITY, SSBD, MARKET AND END OF LIFE

This session will discuss the sustainability and circular economy principles applied to printed electronics. It will cover strategies for designing for sustainability (SSbD), market trends, and the economic impact of sustainable practices in the industry.

Session 5 Key Words - governance, market standards, life cycle analysis, safe and sustainable by design, roadmaps, policies, Circular Economy, Sustainability Strategies, Market Trends, Economic Impact, SSbD (Safe and Sustainable by Design).

6. END USER DEVICES APPLICATIONS

This session will showcase various applications of printed electronics in devices such as sensors, displays, batteries, and wearable technology. It will highlight real-world examples and discuss the potential for future innovations.

Session 6 Key Words - flexible and stretchable device, printed device, stretchable device, energy devices, conductive electrodes, applications of 3D-Printing Technology, Power supply, energy, consumer electronics, information display, flexible sensors, integrated circuit, consumer electronics, textiles-clothing, packaging, automotive, healthcare, pharmaceuticals, patient tracking to smart drug packaging, smart buildings. Bioelectronics and biosensors.

CONFERENCE TIMETABLE

SUSTAINABLE PRINTED ELECTRONICS 2025 | THESSALONIKI

SUSTAINABLE PRINTED ELECTRONICS 2025

DAY 1 - TUESDAY 23 SEPTEMBER 2025

TIME	PRESENTATION TITLE	PRESENTER
	WELCOME	
16:00 – 17:30	Registration	-
17:30 – 18:00	***Opening Talk*** Advanced materials for printable electrochemical energy devices	**Prof. Vassilios Binas**
18:00 – 20:00	Welcome drink	-

CONFERENCE TIMETABLE

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DAY 2 - WEDNESDAY 24 SEPTEMBER 2025

TIME	PRESENTATION TITLE	PRESENTER
S1: Printed Electronics & Manufacturing | CHAIRED: Dr. Zachary J. Davis (DTI)		
09:00 – 09:45	Polymers for light management in solar energy systems: harnessing multifunctionality for sustained performance	**Prof. Gianmarco Griffini** (Politecnico di Milano)
09:45 – 10:05	Aerosol Jet Printing: Technique Overview and Proof-of-Concept Demonstrations for Additive Manufacturing	**Maria Karani** (CERTH)
10:05 – 10:25	Halftone-Printing to Control the Resistance in Arbitrarily Shaped Areas	**Dr. Vanessa Tischler** (Alpen-Adria Universität Klagenfurt)
10:25 – 10:55	Furanoate polyesters: New biobased alternative substrates for printed electronics	**Prof. Dimitrios Bikiaris** (Aristotle University of Thessaloniki)
10:55 – 11:25	**Coffee Break & Session Poster**	
S2: Advanced Materials for PE | CHAIRED: Prof. Dimitrios Bikiaris (AUTH)		
11:25 – 12:10	Polymers, electronics and the genesis of polymer printed flexible electronics	**Prof. George Hadziioannou** (University of Bordeaux)
12:10 – 12:30	Development of green Lignin-MWCNTs hybrids for sustainable conductive materials	**Dr. Sofia Paraskevi Makri** (Creative Nano)
12:30 – 12:50	Carbon Nanofiber-Polylactic Acid LTO Composite filaments for the fabrication of 3D Printed Lithium ion Battery	**Muhammad Saqlain Iqbal** (University of Bari)
12:50 – 13:10	High-performance biobased substrates for printed electronics: The role of copolyesters based on PLA and poly (ethylene azelate)	**Rafail O. Ioannidis** (Aristotle University of Thessaloniki)
13:10 – 14:10	**Lunch Break**	

DAY 2 - WEDNESDAY 24 SEPTEMBER 2025

TIME	PRESENTATION TITLE	PRESENTER
S3: Ink Formulations| CHAIRED: Dr. Cristian Rein (DTI)		
14:10 – 14:55	Closing the Loop: Sustainable and Cost-Effective Glucose Biosensors Through Circular and Digital Design	**Anna Marie Gorman** (CPI)
14:55 – 15:15	Novel PLA nanocomposites based on Ag and Cu nanoparticles: The Next Generation of Printed Electronics	**Lazaridou Kyriaki** (Aristotle University of Thessaloniki)
15:15 – 15:35	Washable Graphene-based Conductive Coating: The Impact of TPU Segmental Architecture on its final performances	**Ilaria Improta** Gennaro Rollo (National Research Council - CNR)
15:35 – 15:55	From Copper Particles into Conductive Inks for Sustainable Membrane Switches	**Dr. Sol Gutierrez** (Danish Technological Institute)
15:55 – 16:25	**Coffee Break**	
S4: Clustering Session | CHAIRED: Dr. Michele Ponzelli (AXIA INNOVATION GmbH)		
16:25 – 16:45	Sustainable and Circular Materials for Printed Electronics: The Sustain-a-Print Project	**Dr. Zachary J. Davis** (Danish Technological Institute)
16:45 – 17:05	Towards sustainable End-of-Life strategies for printed electronics: Recycling and material recovery approaches from the REFORM project and beyond	**Dr. Max Torrellas** (AIMPLAS)
17:05 – 17:25	Electronics from renewables: the HyPELignum project	**Kealie Vogel** (EMPA)
17:25 – 17:45	High-performance biobased substrates for printed electronics: The role of copolyesters based on PLA and poly(ethylene azelate)	**Gerhard Domann** (Fraunhofer ISC)
17:45 – 18:05	Sustainable conductive polylactic acid ink for digital printing	**Leire Sanchez-Duenas** (TEKNIKER)
20:30 GALA DINNER		

CONFERENCE TIMETABLE

SUSTAINABLE PRINTED ELECTRONICS 2025 | THESSALONIKI

DAY 3 - THURSDAY 25 SEPTEMBER 2025

TIME	PRESENTATION TITLE	PRESENTER
S5: Sustainability Circularity, SSbD, market and end of life | CHAIRED: Dr. Ioanna Deligkiozi (AXIA INNOVATION GmbH)		
09:00 – 09:45	EU-funds in the scope Horizon Europe Framework funding for Research	**Dr. Panteleimon Panagiotou** (BayFor)
09:45 – 10:05	Life cycle assessment of two ecodesigned printed electronic devices	**Lou Bernard** (Lomartov)
10:05 – 10:25	Lignin as component of sustainable printed electronics: An overview of IP landscape	**Sotiria Tzampazidou** (AXIA Innovation)
10:25 – 10:45	Chemical Recycling of PLA and Its Copolyesters with Poly(Ethylene Azelate) via Microwave-Assisted Alkaline Hydrolysis	**Nikos Bikiaris** (Aristotle University of Thessaloniki)
10:45 – 11:05	Implementing Safe-and-Sustainable-by-Design (SSbD) in Early-Stage Materials Development: Insights from the GreenOmorph Project	**Dr. Elisabeth Schwarz-Funder** (JOANNEUM RESEARCH)
11:05 – 11:35	**Coffee Break & Session Poster**	
S6: Devices & Applications | Daniel Izquierdo Bote (Metrohm DropSens)		
11:35 – 12:20	Plasmonics and Photonics for High-Performance Biochemical and Environmental Sensing Applications	**Prof. Nikos Pleros** (Aristotle University of Thessaloniki)
12:20 – 12:40	Printed Cellulose-Based Sensors for Process Optimisation and Structural Health Monitoring	**Arunjunai Raj Mahendran** (WOOD KPLUS)
12:40 – 13:00	A Sustainable Printed Platform for Sweat-Based Kidney Disease Monitoring	**Daniel Corzo** (Silicon Austria Labs)
13:00 – 13:20	Eco-Conscious Printed Sensors on Algae-based and Cellulose Substrates for Health and Environmental Monitoring	**Emily Bezerra** (Silicon Austria Labs)
13:20 – 14:20	**Lunch Break**	

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