

Lem Next Gen Science Forum

at Wrocław Tech



Wrocław
Tech



April 28–29, 2026

BOOK OF ABSTRACTS



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Conference programme

Day 1 April 28, 2026 | Tuesday

8:00-9:00	Registration
9:00-10:45	Opening Lem Prize Ceremony The Lem Prize laureate lecture: Li Tang , École Polytechnique Fédérale de Lausanne, EPFL Discussion
10:45-11:00	Coffee Break
11:00-11:45	Plenary Lecture: Anna Kuppuswamy , Young Academy of Europe
11:45-12:30	Early-stage researcher grants talk: Magdalena Baborska-Narożny , Marlusz Ptak (API) , Adrian Różański (API) , Bartosz Uniejewski (AIM)
12:45-14:30	Lunch
14:30-15:15	Student Talks - Digital Horizons: AI, Data, and Information Technologies - Materials of the Future - Green Transformation
15:15-16:00	Student Talks - Smart Cities and Society of the Future - Health Engineering, Future Medicine, and Biotechnologies - Frontiers of Science: Extreme Technologies and Fundamental Research
16:00-16:30	Coffee Break
16:30-17:15	Thematic Panels - Interdisciplinarity: Beyond Boundaries: The Power of Interdisciplinary Research Robert Iskander, Grzegorz Soboń, Marta Rusnak, Dariusz Jagielski - Internationalization and mobility: Global Research Journeys: Mobility, Networks & Opportunities Renata Krzyżyńska, Łukasz Damurski, Karolina Kordek-Khalil, Izabela Walendzik, Bogusław Ziemniak - Research excellence: Rethinking Excellence: Advancing the Future of Research Łukasz Sterczewski, Sławomir Porada
17:15-18:00	Thematic Panels - Research integrity and responsibility: Trust in Science: Integrity, Ethics & Responsible Research Krzysztof Abramski, Jarosław Sotor, Szymon Zelewski, Li Tang - Research Communication and impact: Making Research Matter: Communication, Outreach & Real-World Impact Anna Slekierka, Maciej Mulak - Mental wellbeing: Minds in Balance: Mental Wellbeing in the Research Environment Irmína Dútkowska, Sabina Kničnicka, Marzena Lucyna Klerepka, Karolina Fila-Pawłowska
18.00-19.00	Poster Session
19:30-21:30	Dinner (SKS building)

Day 2 April 29, 2026 | Wednesday

9:00-10:45	Plenary Lecture: Tobias Dornhelm , Lem Prize 2024 laureate, Helmholtz-Zentrum Dresden-Rossendorf Discussion Early-stage grants talk: Anna Slekierka , Łukasz Sterczewski , Sławomir Porada
10:45-11:15	Coffee Break
11:15-12:45	ESR grants talk Anna Kowalska-Pyzalska , Dominik Tereflinko , Michał Mazur , Bartosz Zajączkowski , Marcin Syperek , Sebastian Kraszewski , Weronika Urbńska , Agnieszka Mirkowska
12:45-14:30	Lunch
14:30-15:15	Student Talks - Digital Horizons: AI, Data, and Information Technologies - Materials of the Future - Green Transformation
15:15-16:00	Student Talks - Smart Cities and Society of the Future - Health Engineering, Future Medicine, and Biotechnologies - Frontiers of Science: Extreme Technologies and Fundamental Research
16:00-16:30	Coffee Break
16:30-17:15	Thematic Panels - Funding: Navigating Funding Landscapes: From Ideas to Successful Grants Piotr Miynarz, Krzysztof Pyrc, Krzysztof Jóźwiak - Entrepreneurship: From Research to Innovation: Turning Ideas into Products Anna Górecka, Daniel Strub, Kamila Krawiec, Artur Podhorodecki, Maciej Milewski - Career paths: Careers Beyond Academia: Finding Your Path in a Changing World Marcin Drag, Anna Byzia, Agnieszka Dobrzyń, Rafał Witek
17:15-18:00	Thematic Panels - AI in modern research: AI for Discovery: How Artificial Intelligence Transforms Modern Research Tomasz Kajdanowicz, Przemysław Kazlenko, Wiktorla Mieszczenko-Kowszewicz, Mateusz Bystróński, Marla Piatek - Entering research career: How a PhD Shapes Your Way of Thinking and Working Krzysztof Walkowiak, Maja Szymczak, Mehlayl Tariq, Michał Panek, Bartosz Stec - Max Born Alliance – on the role on basic research for innovative technologie Radosław Michalski, Artur Bednarkiewicz, Min Ying Tsan
18.00-19.00	Closing

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Smart Cities and Society of the Future

ORAL PRESENTATION



HYBRID DRONE DISTRIBUTION: SUSTAINABLE MODELS FOR URBAN LAST-MILE DELIVERY

Smart Cities and Society of the Future

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Keywords: drone logistics, last-mile delivery, distribution models, urban sustainability

Parcel lockers have become a key part of urban delivery systems across Europe, with Poland being one of the leaders in their adoption. With nearly 45,000 parcel locker machines operated by multiple logistics providers, Poland has the highest parcel locker density in Europe and offers a unique and mature infrastructure for exploring next-generation delivery innovations. Integrating drones into these existing parcel locker networks could make urban deliveries faster, cheaper, and more environmentally friendly.

However, there is currently no clear management framework for how drones and parcel lockers can work together effectively, especially in the Polish market condition. Most existing research focuses on drone delivery to homes, leaving the drone-to-locker model largely unexplored.

This study applies a structured literature review to examine the key variables that shape such a system, including locker locations, drone capacity, delivery demand patterns, and urban zone characteristics in Polish geography. Special attention is given to how these variables differ across direct and third-party logistics channels.

Preliminary findings from the literature review reveal a clear absence of dedicated management frameworks for drone-to-locker systems, and identify locker spatial density, channel type, and demand variability as the most critical variables influencing system design. These insights form the conceptual foundation for developing future management models aimed at supporting logistics companies and policymakers in moving toward smarter, greener, and more efficient urban last-mile delivery in Poland.



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