# MEET THE EXPERTS

Finding common ground in sound detection

Monday June 30th, 1:00 PM

iGent, Technologiepark 126, 9052 Gent

## PURPOSE OF THIS EVENT

Sound event detection and extraction form the foundation of a growing range of automated systems aimed at improving quality of life. Recent advances in AI—particularly neural network models—have rapidly expanded real-world applications, offering transformative possibilities across domains. At the core of this event lies a shared challenge: enabling accurate, robust, and efficient sound interpretation in complex, real-life environments. From AI-aided home stethoscopes for non-invasive health diagnostics, to passive acoustic monitoring for animal welfare, to urban soundscape analysis supporting public health—these applications all rely on reliable sound event detection.

Achieving this goes beyond accuracy. Neural models must recognize meaningful patterns across diverse scenes, devices, and noise—learning to interpret sound in ways aligned with human perception and practical needs. This calls for context-aware systems, not just low-level signal processing. At the same time, growing AI capabilities require sustainability. Balancing model accuracy, size, and computational demands is crucial for scalable, low-impact technologies.

**This event brings together experts at the crossroads of acoustics, AI, and domains like medicine, veterinary science, and urban health. Despite different applications, they face common technical challenges. The goal is to create an open forum for exchanging ideas, methods, and questions—fostering collaborations that advance the field.**

## ADVANCING SOUND EVENT DETECTION

## EVENT OVERVIEW

This event brings together researchers working on a shared challenge: isolating sounds of interest from complex acoustic environments. The focus is on three diverse application domains: **biomedical monitoring**, **farm animal welfare**, and **urban soundscapes**.

The event will feature three experts. Prof. Kocinski will discuss challenges in breathing and heart rate analysis at the startup StethoMe. Prof. Alsina Pages will explore animal vocalisation for welfare monitoring in farming. Prof. Filipan will address the role of salient sound events in urban sound planning for health and well-being.

Each speaker will have approximately 30 minutes, consisting of a 20-minute talk followed by a 10-minute Q&A session with PhD candidates and postdocs. The event will conclude with a 60-minute panel discussion. This is your opportunity to contribute to the conversation: share perspectives from your own research, ask follow-up questions, and explore interdisciplinary links with the speakers and fellow researchers.

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## JĘDRZEJ KOCIŃSKI

### AFFILIATION
Faculty of Physics, Adam Mickiewicz University, Poznań, Poland

### ABOUT
Prof. Jędrzej Kociński is a physicist and acoustician with over 15 years of research experience. He holds a Ph.D. in physics and a habilitation in biophysics. As a co-founder and VP of Regulatory Affairs at StethoMe, he played a pivotal role in developing the world's first AI-assisted home-use stethoscope for lung sound analysis. At Adam Mickiewicz University, he lectures on building acoustics, signal analysis, and room acoustics. Prof. Kociński is also a certified ISO 13485 auditor, overseeing quality management systems in medical devices. His interdisciplinary work bridges physics, acoustics, and medical technology, making him an expert in AI-driven health diagnostics.

## ROSA MARIA ALSINA-PAGÈS

### AFFILIATION
Human-Environment Research, La Salle, Universitat Ramon Llull, Barcelona, Spain

### ABOUT
Prof. Rosa Maria Alsina-Pagès is a Full Professor and Director of Research and Innovation at La Salle Campus Barcelona, Universitat Ramon Llull. As part of the Human-Environment Research group, she focuses on acoustic signal processing, environmental acoustics, and sound event detection. With over 60 publications in indexed journals and more than 100 conference contributions, her work has significantly advanced real-time acoustic monitoring. Notably, she has led projects like CowTalk, which utilizes AI algorithms in IoT sensors to enhance animal welfare and productivity. Her interdisciplinary research bridges engineering, animal welfare, and environmental health, making her an expert in applying acoustic technologies to real-world challenges.

## KARLO FILIPAN

### AFFILIATION
Acoustics Lab, Catholic University of Croatia, Zagreb, Croatia

### ABOUT
Dr. Karlo Filipan is an Assistant Professor at the Catholic University of Croatia, specializing in urban soundscapes and acoustic perception. He earned his Ph.D. from Ghent University, focusing on the noticeability of sound events and attention in urban sound perception. Dr. Filipan has contributed to international projects like SONORUS and has co-authored numerous peer-reviewed publications on soundscape classification, virtual soundwalks, and acoustic monitoring. His recent work includes developing a soundscape monitoring system for earthquake-affected urban areas in Zagreb, integrating sensor networks and citizen feedback. Prof. Filipan's interdisciplinary approach combines engineering, psychology, and urban planning, making him an expert in the assessment and design of urban acoustic environments.

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