🎓 **imec-WAVES PhD Forum – 7 November 2025** 🎓

Today at **imec-WAVES (Ghent University)**, we organized a PhD Forum featuring four inspiring talks from our researchers, each presenting innovative work across wireless communication, sensing, and AI.

💡 **Talks Highlights**

🔹 **Morteza Alijani**
AI on the farm: Using machine learning (ML) and visible light sensing (VLS) for chicken counting and poultry welfare
Exploring how VLS can be combined with ML to enable intelligent monitoring in real farm environments. A practical case study on automated chicken counting shows how AI-driven VLS supports animal welfare through efficient, low-cost observation and data analysis.

🔹 **Javad Heidari**
Ray tracing for 5G MaMIMO exposure assessment
Addressing public exposure concerns in 5G/6G networks through advanced ray-tracing simulations—offering insights for safe and efficient network deployment.

🔹 **Bo Yin**
AI-assisted network design for intelligent wireless systems
Introducing a Graph Neural Network (GNN)-based optimization framework for RIS-assisted wireless networks, leveraging topology-aware AI for energy-efficient design.

🔹 **Bram Stroobandt**
From cities to villages: Assessing 4G and 5G uplink exposure across Europe
Presenting a large-scale European study on smartphone-induced RF-EMF exposure across 282 microenvironments in seven countries—shedding light on how our environment and technology shape uplink power usage.

📖 **For interested readers**, you can find more details in the following recent papers from our group:

M. Alijani, C. D. Cock, W. Joseph and D. Plets, "Device-Free Visible Light Sensing: A Survey," in IEEE Communications Surveys & Tutorials, doi: 10.1109/COMST.2025.3546166.

B. Yin, J. Schampheleer, W. Joseph and M. Deruyck, "Graph Neural Network Based Energy-Efficient Optimization for RIS-Assisted Wireless Networks," in IEEE Transactions on Wireless Communications, doi: 10.1109/TWC.2025.3585772.

S. Bastiaens, M. Alijani, W. Joseph and D. Plets, "Visible Light Positioning as a Next-Generation Indoor Positioning Technology: A Tutorial," in *IEEE Communications Surveys & Tutorials*, vol. 26, no. 4, pp. 2867-2913, Fourthquarter 2024, doi: 10.1109/COMST.2024.3372153.

B. Stroobandt et al., "Auto-induced uplink 4G and 5G RF-EMF exposure assessment using a network monitoring application in different microenvironments across seven European countries," Environmental Research, Volume 270, 1 April 2025, 121029, https://doi.org/10.1016/j.envres.2025.121029

👏 A big thank you to all presenters and attendees for contributing to such an insightful and engaging session!
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