

# Séminaire

Equipe « Réseau »

**Mercredi 14 juin 2023**  
**14h00 en E303**

## LoRaWAN, from platform deployment to performance analysis and optimization

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### Abstract:

Long Range Wide Area Network (LoRaWAN) has become one of the most deployed low-power wide-area (LPWA) technology for IoT applications. The key objective of this wireless technology is to connect battery-powered devices over large distances with low data rates. This seminar summarizes our experience and research on LoRaWAN technology. It starts by showcasing our experimental platform along with the underlying architecture and protocol stack. Then Link-level design aspects are considered highlighting the radio model we developed for LoRa in both rural and urban environments as well as indoor and outdoor. We will also focus on the system level performance and existing modelling approaches to capture the capacity of single and multi-gateway deployments on one hand, and to perform radio resource allocation on the other hand. We will end the seminar by discussing our on-going work on the quality of service in LoRaWAN.

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### Short Biography:



Marc Ibrahim received the engineering and master's degrees from the Faculty of Engineering, Saint Joseph University of Beirut, in 2002 and 2004, respectively, and the Ph.D. degree in communication networks from the University of Versailles, France, in 2009. He is currently an Associate Professor and the Director of the National Institute of Telecommunications and Informatics, Saint Joseph University of Beirut, Lebanon. His research interests include orbit wireless networks and particularly focus on radio resource management, LPWA technologies, performance modelling, and networks measurement.