

Workshop “IoT platforms for indoor air quality study”

**Location: Université Sorbonne Paris Nord (USPN), Villetaneuse, France
22 and 23 May 2023**

Organizers:

Gladys Diaz – L2TI (USPN-France) & Salvador Ruiz Correa – YPYCyT (Mexico)

PROGRAM

Day 1 - Monday, May 22, 2023

Room: Copernicus (Galileo Institute)

9h00 – Welcome and structuring of the workshop

9h20 - 11h Presentation of partner institutions and collaboration opportunities

- **Part I - Presentation of partner institutions**
 - You-i Lab IPICYT
 - División de Biología Molecular IPICYT
 - División de Control y Sistemas Dinámicos IPICYT
 - Laboratoire L2TI - Equipe Réseaux USPN
 - Laboratoire LIPN - USPN
 - Departamento de informática de INSUBRIA
 - Laboratoires ITIS: ERTIS group and MORSE Lab (UMA)
 - Université de Guadalajara - CUCEI - CUCEA
 - Département de statistiques de l'UDCLV

11h30 – 12h15 Part II - MUFRAMEX funding opportunities

- European or International Scientific Networking Program 2023 (open)-
<https://www.muframex.fr/appele-programme-mrsei-2023/>
- ECOS NORD program (open in october 2023)
<https://www.univ-paris13.fr/ecos-nord/>

Lunch Break

14h - 15h30 Experience sharing: design and implementation of IoT Platforms

Presentations on IoT platforms: in France and Mexico

- SenSky Project. Salvador Ruiz - IPICYT
- CO2 Project. Ruben Lopez Revilla - IPICYT
- BQR-LoRa @UP13 Project. Gladys Diaz - L2TI

16h00 - 18h30 IoT technology and applications

- Internet of Things: current and future security and privacy challenges. Alessandra Rizzardi - INSUBRIA
- A scalable and secure architecture for blockchain-based micro-payments. Trombetta Alberto - INSUBRIA
- Towards Formal Verification of Business Processes in the Blockchain. Kais Klai - LIPN

- Deterministics Communications over 5G - Validation with Victoria Network at UMA. Delia Rico & Francisco Luque- ITIS/MORSE Lab
- Privacy-aware passive sniffing: from packet collection to bounded trajectories. Nadjib Achir - INRIA-Saclay

19h30 – 21h30 DINER « Bistrot »

DAY 2 - Tuesday, May 23, 2023

Room: EULER (Galileo Institute)

9h - 12h Data analysis

Session dedicated to the analysis of data, concerning the tools for analysis and the pollution measurements already collected.

9h - 10h30 Analysis tools

- Machine Learning and Data streams with KAFKA-ML. Cristian Martin - UMA
- Aether: open source 5G Connected Edge platform for enabling critical enterprise IoT application – Abdulhalim Dandoush – UDST, ESME & L2TI
- Optimizing energy and communication resources for IoT: A case study at USPN. Khaled Boussetta, Janeth Aguilar and Gladys Diaz - L2TI
- From sensors to time series forecasting: a whole prediction framework. Louis Closson - LIG

11h00 - 12h30 Air Quality and Health Monitoring

Presentation of current projects :

- Centinela de la salud - IPICYT
- Centinela del aire - IPICYT
- The Air Quality Station Project. Didier Dozen – LIG

Lunch Break

14h00 - 18h00 Plenary session

Implementation of Collaborative Networks : IoT platform design, data collection and analysis and applications for social good in France and Mexico.

14h00 - 15h30 Some Air Quality Task Force Initiatives

- Centre d'initiative pour la vie et santé mobile. Salvador Ruiz - IPICYT
- Smart Cities Team. Víctor Manuel Larios Rosillo – CUCEA (UdG)
- Monitoring Air pollution (CO₂) through IoT and nanomaterials - Antonio Casillas Zamora – CUCEI (UdG)

16h00 - 18h00 Working Session: Developing a plan for joint collaboration

- Discussion of themes and possible collaborative projects
- Task allocation and schedule of activities for the following year.
- Programming participants for the Workshop in Mexico (2024).

19h30 – 21h30 GALA DINER