

**WIPHAL 2023**  
**Work-in-Progress in Hardware and Software**  
**for Location Computation**

**June 06–08, 2023, Castellon, Spain**

Welcome to the 2023 edition of WIPHAL 2023: Work-in-Progress in Hardware and Software for Location Computation to consider and discuss reliable navigation, ranging and positioning in indoor and outdoor, vehicular applications, wireless networks, wearables and consumer products.

Navigation and positioning are becoming essential when guaranteeing transparent, efficient and reliable workflows. A robust localization solution, which will be available continuously is needed regardless outdoor and indoor, and on different platforms. WIPHAL addresses the latest research on software and hardware approaches of wireless and satellite-based positioning and ranging techniques to analyze and provide reliable and accurate position information with low latency. During the workshop days we will have an intensive look to GNSS technologies and applications, as well as an outlook to various wireless technologies as enabler for precise and real-time localization.

The conference takes place in Castellon during June 06-08, 2023. Looking forward to meeting authors for fruitful discussion by the sea!

Prof. Jari Nurmi, Assoc. Prof. Elena-Simona Lohan  
Tampere University Tampere University

Proceedings edited by: A. Ometov, J. Nurmi, S. Lohan, J. Torres-Sospedra, H. Kuusniemi

## **Committees:**

### **General Chairs:**

Jari Nurmi, TAU, Finland

Elena-Simona Lohan, TAU, Finland

### **TPC Chairs:**

Heidi Kuusniemi, University of Vaasa, Finland

Joaquin Torres Sospedra, University of Minho, Portugal

### **Publicity Chair:**

Aleksandr Ometov, TAU, Finland

### **Steering Committee:**

Jari Nurmi, TAU, Finland (chairman)

Fabio Dovis, Politecnico di Torino, Italy

Heidi Kuusniemi, U Vaasa, Finland

Elena Simona Lohan, TAU, Finland

Jose Lopez-Salcedo, UAB, Spain

Terry Moore, U Nottingham, UK

Adriano Moreira, U Minho, Portugal

Alexander Rügamer, Fraunhofer IIS, Germany

Stephan Sand, DLR, Germany

Gonzalo Seco Granados, UAB, Spain

Joaquin Torres Sospedra, University of Minho, Portugal

### **Program Committee:**

Vladimir Atanasovski, Ss. Cyril and Methodius University, Macedonia

Rafael Berkvens, U Antwerp, Belgium

Zahidul Bhuiyan, NLS/FGI, Finland

Liang Chen, WHU, China

Pau Closas, Northeastern University, USA

Fabio Dovis, Politecnico di Torino, Italy

Emanuela Falletti, LINKS Foundation, Italy

Martti Kirkko-Jaakkola, NLS/FGI, Finland

Mike Koivisto, TAU, Finland

Heidi Kuusniemi, U Vaasa, Finland

Elena Simona Lohan, TAU, Finland

Jose Lopez-Salcedo, UAB, Spain

Filipe Meneses, Univ. of Minho, Portugal

Adriano Moreira, Univ. of Minho, Portugal

Maria Nicolau, Univ. of Minho, Portugal

Fernando Nunes, Instituto de Telecomunicacoes, Portugal

Jari Nurmi, TAU, Finland

Aleksandr Ometov, TAU, Finland

Lorenzo Ortega, TeSA, France

Alexander Rügamer, Fraunhofer, Germany

Stephan Sand, DLR, Germany  
Gonzalo Seco Granados, UAB, Spain  
Joaquin Torres-Sospedra, UJI, Spain  
Jesus Ureña, University of Alcalá, Spain  
Klaus Witrisal, TU Graz, Austria

**Supporters:**

