



Journées scientifiques d'URSI-France

Future Networks: 5G and beyond

March 11-13, 2020

Telecom Paris, Institut Polytechnique de Paris (Palaiseau, France)

1ST CALL FOR PAPERS

The URSI-France 2020 workshop, organized under the auspices of the French Academy of Sciences, will focus on "Future Networks: 5G and beyond". The workshop will be held on the campus of Telecom Paris, Institut Polytechnique de Paris, in Palaiseau (France), from March 11 to March 13, 2020.

Given the commercial launch of the Fifth Generation of Mobile Radio Networks (5G) in 2020, URSI-France dedicates its annual workshop to such networks and to their future developments, as they are called to transform society in-depth through very innovative uses. With 5G, wireless networks will have been designed for the first time from the outset, with the aim to make possible person-person, person-machine and machine-to-machine communications, giving access to a multitude of services relying on data. The 5G-specific technological developments, the use of millimeter waves, the foreseeable developments that will require extending 5G with a follow-up generation, will continue to stimulate important efforts and new lines of research for both academia and industry. However, as each new generation introduces more complexity and service enrichment, it also raises concerns and fears stemming from the increased number of electromagnetic emission sources, the associated exposure and the energy consumption. It is therefore important to address these various issues in an altogether unbiased vision, at the core of the scientific approach.

In this context, the workshop will be organized around oral sessions and posters. Most sessions will be introduced by invited speakers, presenting the state of the art and / or recent developments, followed by papers that have been selected by the Scientific Committee.

Main topics

Antenna design and measurements

New techniques related to antenna design and measurements in a wide spectrum of frequencies
Complex and active antennas (Massive-MIMO, reconfigurable surfaces...)
New approaches for antenna modeling and measurements (reverse engineering, statistics, optimization, measurement-simulation hybridization)

Propagation and physical layer

Propagation channel modeling joint coding, spatial modulations, Non-Orthogonal Multiple Access...
Dynamic frequency management, Spectrum utilization beyond 100 GHz
Physical layer contributions to the security and privacy of communications
Geolocation, Positioning techniques and location-based precoding algorithms
« Over The Air » measurements

New approaches for the design, dimensioning, optimization and management of wireless networks

Resource allocation (allocation strategy, optimization...)
Propagation of uncertainties, surrogate models
Artificial Intelligence and Learning Methods (Blind channel estimation, Map of exposure, dimension reduction , ...)
Optimized strategy (multi objectives,..)

Photonics

Li-Fi
Architectures of optical access networks
Photonic components & optical-RF interfaces

Electromagnetic environment, exposure assessment and energy efficiency

Electromagnetic compatibility of systems, signal integrity, interferences
Characterization of electromagnetic protections (materials, systems)
Characterization of EMF exposure (compliance, actual exposure, uncertainty management...)
Green communications, energy harvesting

ORGANIZATION

The 2020 URSI-France workshop will take place on the TELECOM PARIS campus (<https://www.telecom-paris.fr>) in Palaiseau, **from Wednesday, March 11 to Friday, March 13, 2020**. It will include on Thursday, March 12, the **URSI-France General Assembly**.

COMMITTÉS

Scientific Committee Chair: Joe Wiart, Telecom Paris, France

Joseph Achkar (Observatoire Paris) Jean-Benoit Agnani (ANFR) Tahsin Akalin (Université De Lille) Francesco Andriulli (Politecnico Di Torino) Xavier Begaud (Telecom Paris) Sébastien Célestin (CNRS Orléans) Emmanuelle Conil (ANFR) Yoann Corre (Siradel) Raffaele D'Errico (CEA-LETI) Philippe De Doncker (Université Libre De Bruxelles) Mérourane Debbaïh (Huawei) Patrick Gallepeau (LATMOS, Université Versailles Saint-Quentin) Azeddine Gati (Orange)	Christophe Grangeat (Nokia) Frédéric Grillot (Telecom Paris) Nicolas Gross (MVG) Florian Kaltenberger (Eurecom) Marco Klingler (Groupe PSA) Jean-Marc Laheurte (Université Paris Est Marne-La-Vallée) Sébastien Lalléchère (Université De Clermont Auvergne) Quentin Lampin (Orange) Christophe Le Martret (Thales) Martine Liénard (Université De Lille) Yves Louët (CentraleSupélec) Luis Mir (Institut Gustave Roussy) Claude Oestges (Université De Louvain)	Allal Ouberehil (TDF) Patrice Pajusco (IMT-Atlantique) Christian Person (IMT-Atlantique) Dinhthuy Phanhuu (Orange) Philippe Pouliguen (DGA) Yannis Pousset (Université De Poitiers) Christophe Roblin (Telecom Paris) Julien Sarrazin (Sorbonne Université) Alain Sibille (Telecom Paris) Tullio Tanzi (Telecom Paris) Smail Tedjini (INP Grenoble) Yann Toutain (MVG) Wim Van Driel (Observatoire de Paris) Maxim Zhadobov (Université De Rennes)
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Organizing Committee Chair: Alain Sibille, Telecom Paris, France

Hervé Sizun (URSI-France), Joël Hamelin (URSI-France)

CNFRS/URSI-FRANCE MEDAL AND RADIOSCIENCES PHD AWARD

The workshop will be the opportunity to remit the **annual URSI-France Medal**, as well as the 2020 **Radiosciences PhD Award** under the aegis of URSI and URSI-France.

EUROPEAN YOUNG SCIENTIST GRANT

A **Young scientific grant** of **300 euros** and a **free registration** will be awarded to the principal author and presenter of the best article, if he is under 35 and affiliated to a European laboratory other than French.

PUBLICATION

The texts of the communications will be grouped together in proceedings, an electronic version of which will be available on the web site of URSI-France (<http://ursi-france.org>)

A selection of papers will be proposed for publication, either in a **special issue of the Comptes rendus Physique de l'Académie des sciences** or in the **Revue de l'électricité et de l'électronique** (REE).

INSTRUCTIONS FOR AUTHORS

Proposals for papers should be submitted online via the dedicated website: <https://ursifr-2020.sciencesconf.org/>, in the form of a **clear and concise text of one to two pages**, with sufficient content to allow their scientific evaluation. Microsoft WORD and LaTeX Templates (text, presentation and poster) will be available on the workshop web site and on the URSI-France website.

KEY DATES

December 15, 2019: **Deadline for submission of abstracts**
January 16, 2020: Notification to authors of acceptance by the Scientific Committee.
February 7, 2020: **Deadline for full text submission**
February 21, 2020: Notification of the final acceptance of the full paper
March 11-13, 2020: **Workshop**

FURTHER INFORMATION

All relevant information about the 2020 Workshop is available on the URSI-France website: <http://ursi-france.org>.

« Creativity is intelligence having fun » (Albert Einstein)

