1st International Conference on 6G Networking
# Program

## 6GNet 2022 Program at a Glance

<table>
<thead>
<tr>
<th>Time (CEST)</th>
<th>Wednesday, July 6</th>
<th>Thursday, July 7</th>
<th>Friday, July 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00-09:15</td>
<td>Tutorial #1 (Part I)</td>
<td>Technical Session #1</td>
<td>WALSGplus Workshop Keynote #1</td>
</tr>
<tr>
<td>09:15-09:30</td>
<td>Tutorial #2 (Part I)</td>
<td></td>
<td>WALSGplus Workshop Keynote #1</td>
</tr>
<tr>
<td>09:30-09:45</td>
<td>Tutorial #3 (Part I)</td>
<td>Coffee break</td>
<td>WALSGplus Workshop Session #2</td>
</tr>
<tr>
<td>09:45-10:00</td>
<td></td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td>Coffee break</td>
<td>Coffee break</td>
<td>Coffee break</td>
</tr>
<tr>
<td>10:15-10:30</td>
<td>Tutorial #1 (Part II)</td>
<td>Keynote #3 Jean-Claude BELFIORE (Huawei, France)</td>
<td>Keynote #6 David SOLDANI (Rakuten, Australia)</td>
</tr>
<tr>
<td>10:30-10:45</td>
<td>Tutorial #2 (Part II)</td>
<td></td>
<td>WALSGplus Workshop Session #2</td>
</tr>
<tr>
<td>10:45-11:00</td>
<td>Tutorial #3 (Part II)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00-11:15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:15-11:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30-11:45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:45-12:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00-12:15</td>
<td>Lunch break / Poster &amp; Demo</td>
<td>Lunch break</td>
<td>Lunch break</td>
</tr>
<tr>
<td>12:15-12:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30-12:30</td>
<td>Lunch break</td>
<td>Lunch break</td>
<td>Lunch break</td>
</tr>
<tr>
<td>13:30-13:45</td>
<td>Opening Conference</td>
<td>Keynote #4 Mikko UUSITALO (Nokia Bell Labs, Finland)</td>
<td>Keynote #7 Dinh-Thuy PHAN-HUY (Orange, France)</td>
</tr>
<tr>
<td>13:45-14:00</td>
<td></td>
<td></td>
<td>WALSGplus Workshop Keynote #2</td>
</tr>
<tr>
<td>14:00-14:15</td>
<td>Keynote #1 Mischa DOHLER (Ericsson, USA)</td>
<td>Keynote #2 Benoît JOUFFREY &amp; Bernhard QUENDT (Thales, France)</td>
<td>Keynote #5 Ankur JAIN (Google, USA)</td>
</tr>
<tr>
<td>14:15-14:30</td>
<td></td>
<td>Coffee break</td>
<td>Distinguished Expert Panel</td>
</tr>
<tr>
<td>14:30-14:45</td>
<td></td>
<td></td>
<td>WALSGplus Workshop Panel</td>
</tr>
<tr>
<td>14:45-15:00</td>
<td>Coffee break</td>
<td></td>
<td>Closing</td>
</tr>
<tr>
<td>15:00-15:15</td>
<td>Technical Session #1</td>
<td>Special Session #1 6G use cases and perspectives</td>
<td>Closing Conference</td>
</tr>
<tr>
<td>15:15-15:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:30-15:45</td>
<td>Welcome Reception</td>
<td>Keynote #5 Ankur JAIN (Google, USA)</td>
<td>New visions for a 6G distributed and secure</td>
</tr>
<tr>
<td>15:45-16:00</td>
<td></td>
<td></td>
<td>Gala Dinner</td>
</tr>
<tr>
<td>16:00-16:15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:15-16:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:30-16:45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:45-17:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00-17:15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:15-17:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:30-17:45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:45-18:00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dear participant,

Thank you for your interest to the first international IEEE conference dedicated to 6G!

The program of this first edition is remarkably rich and will explore and assess the progress of various aspects of 6G networking research in the company of internationally-renown experts:

• Four tech sessions will thus be the opportunity to address 6G network design (including RAN aspects) resource optimization, scalability and performance, as well as security and control challenges.

• Two special sessions organized in four sub-sessions will be the opportunity to discuss 6G use cases, 6G network design and companion techniques like digital twins, drone networking or computing-in-the-network techniques.

• Some of these topics will be further echoed by no less than seven keynotes, covering 6G requirements, security challenges, semantic networking, EMF exposure awareness as well as cloud-native designs. A panel composed of five panelists and two moderators nicely complements this program by addressing 6G network resiliency and sustainability considerations.

• Poster and demo sessions nicely complement the menu and will be organized during lunch breaks.

• Last but certainly not least, three tutorials will be the opportunity to investigate AI-fueled 6G networking, advanced ultra-massive MIMO technologies and novel satellite communication modeling approaches.

This 6GNet 2022 Conference is technically sponsored by the IEEE, the IEEE Communications Society and the 6G Flagship initiative headed by the Finnish University of Oulu. The conference is organized by DNAC, and we would like to warmly thank our Sponsors: Orange, which also hosts the conference in its Orange Gardens facilities located in Châtillon near Paris, the Technology Innovation Institute and Nokia.

Special thanks go to the members of the Organization Committee for their time and dedication to nicely cook a rich and attractive conference program.

Thanks also to all the authors who submitted papers to the conference as well as the members of the Technical Program Committee who thoroughly reviewed these papers to make sure they meet the highest quality standards.

We are therefore very much looking forward to welcoming you in France or inline. These 3 days will be the opportunity of fruitful exchanges, enlightening keynotes, insightful paper presentations and lively training, so that you will have the ability to comprehensively apprehend the most recent advances in 6G networking research at large, from business cases to in-depth 6G network design and operation.

Welcome to the first 6GNet conference!

Welcome Message from the Chairmans

General Co-Chairs

Khaled B. Letaief
(HKUST, Hong Kong)

Matti Latva Aho
(Oulu University, Finland)

Merouane Debbah
(TII, UAE)

TPC Co-Chairs

Christian Jacquenet
(Orange Labs, France)

Henning Schulzrinne
(Columbia University, USA)
Abstract: In this keynote, I will lay out six important challenges we need to address to ensure a prosperous development of 6G and the underpinning ecosystem. I will leverage on some important trends to argue for these challenges to be addressed in a holistic manner. The keynote is a call-to-action for academia and industry to deliver on the 6G promise.

"The 6G security challenges"

Abstract: 6G will, like many new mobile communication technology, inherits from the previous releases and introduces in parallel new features. Taking this view, we will review the security challenges that arises in 6G, illustrating this with cryptographic and hardware-based security examples.

Benoi Jouffrey

CTO of Digital Identity and Security, Thales, France

Before his current role, Benoit Jouffrey was Vice President for 5G, responsible for the definition of the 5G strategy and the coordination of 5G activities. Prior to Thales’s acquisition of Gemalto, Benoit held several strategic positions, including VP, Connectivity and Embedded Solutions, and VP for machine-to-machine (M2M) value-added services.

He was also the Vice President, Strategy & Development for the Gemalto Telecom Business Unit, in charge of the telecom strategy and long-range plan, and has held various sales management positions at Gemplus previously. Prior to 1999, Benoit was with Credit Agricole Indosuez (formerly Banque Indosuez).

Mikko Uusitalo

Mikko Uusitalo is Head of Research Department Radio Systems Research Finland at Nokia Bell Labs Finland. Mikko is leading the European 6G flagship project Hexa-X. He obtained a M.Sc. (Eng.) and Dr. Tech. in 1993 and 1997 and a B.Sc. (Economics) in 2003, all from predecessors of Aalto University.

Mikko has been at Nokia since 2000 with various roles including Principal Researcher and Head of International Cooperation at Nokia Research. Mikko is a founding member of the CELTIC EUREKA and WWRF, the latter one he chaired for 2004-2006. Mikko is a WWRF Fellow. Mikko has more than 70 granted patents or patent families and roughly the same amount in the application phase.

Abstract: European 6G Flagship Hexa-X has been working since Jan 2021 with a strong participation from both industry and academia. The Hexa-X vision is to connect human, physical, and digital worlds with a fabric of 6G key enablers. This talk will present the latest results from Hexa-X, including updated use cases for 6G, initial E2E architecture, addressing sustainability needs as well as updated technical enablers on 6G radio and sensing, connected intelligence and addressing vertical industry needs. More on Hexa-X from https://hexa-x.eu/.

Bernhard Quentdt

CTO and Senior Vice President, Thales, France

Dr. Bernhard Quentdt holds engineering degrees from the University of Stuttgart and Télécom Paris (ENST), and completed a PhD at the Technical University of Munich, where he was awarded the Rohde & Schwarz Prize. Formerly Chief Technical Officer for Siemens Digital Industries, Dr. Bernhard Quentdt joined the Siemens Communications division in 1999 before being appointed Vice President R&D for Siemens Rail Automation in 2005.

In 2011 he took the responsibility for platform activities and R&D as Vice President for Siemens Industrial Automation Systems and since 2015, he held the position of the Chief Technical Officer at Siemens Digital Industries. Bernhard Quentdt joined Thales in 2020 as Chief Technical Officer and Senior Vice President.

Jean-Claude Belfiore

Director of the Advanced Wireless Technology Lab, Huawei Technologies, France

"6G needs to break Shannon’s limits : towards a theory of semantic information"

Jean-Claude Belfiore received the Diplôme d’ingénieur (Eng. degree) from Supelec in 1985, the doctoral (PhD) from Ecole Nationale Supérieure des Télécommunications (ENST Paris) in 1989 and the "Habilitation à diriger des Recherches" (HdR) from Université Pierre et Marie Curie (UPMC) in 2001. He was enrolled in Alcatel in 1985 and then in 1989 in ENST where he is now a full professor.

He is carrying out research at the "Laboratoire de Traitement et Communication de l’Information" (LTCI), joint research laboratory between ENST and the "Centre National de la Recherche Scientifique" (CNRS), UMR 5141, where he is in charge of research activities in the fields of wireless communications, coding for wireless networks and space-time coding.

Jean-Claude Belfiore has made pioneering contributions on signal design for wireless communication systems, space-time coding, cooperative and multi-user communications. He is the co-inventor, with Ghaya Rekaya and Emanuele Viterbo, of the celebrated Golden Code.

He is author or co-author of more than 170 technical papers and communications and he has served as advisor for more than 30 Ph.D. thesis. Specialties: Wireless communications, Coding, Algebraic and arithmetical tools for Coding.

Abstract: A theory of semantic information goes beyond the common Shannon paradigm of guaranteeing the correct reception of each single transmitted word, irrespective of the meaning conveyed by the word. The idea is that a communication between two agents has a goal to be accomplished. To define this goal, we need a specific language (in practice a formal one). To each proposition of this language is associated a desired meaning. What really matters is the impact that the correct reception/interpretation of the proposition is going to have on the goal accomplishment. To each proposition or concept, we need to associate a measure of semantic information.

On the practical side, thanks to this formalization, we can consider a semantic communication as having two components: sentences or propositions in a given language and the semantic content of these propositions. But what makes this approach very efficient is that the semantic content has to be transmitted once and even partially in many cases as the destination may have some a priori knowledge. Only sentences in a given language have to be transmitted all the time. We may consider captioning a video as an example of the huge compression rate that could be achieved. In this presentation, we will propose the notion of semantic spaces to measure the semantic content of concepts or propositions.
Ankur Jain
Google, USA
“Considerations for the next G”

Ankur Jain is Vice President of Engineering leading Google Cloud for Communication Service Providers, Distributed Cloud Edge and Immersive Stream.

Before this, Ankur was working in the tech office of the CEO on cross-Google strategic programs including 5G. He previously worked on Google’s connectivity and communication products including Fi, Loon, Station, Messages, Google Voice and CBRS-based networks. Before that he was instrumental in bringing software defined networking and disaggregation to Google’s edge network. He was one of the first engineers and later led Google’s content delivery network as it grew into the largest in the world, deployed by several hundreds operators globally.

Ankur holds a masters degree in computer science and engineering from University of Washington Seattle and a bachelors degree in the same from Indian Institute of Technology Delhi. He has a few dozen patents and conference papers filed/granted/published. His closest shot at stardom though was when he went to Los Angeles in 2013 as part of the team that collected the 65th Primetime Emmy Engineering Award for YouTube; and then in 2020 when he went to the White House for discussions on 5G, but he still remains happily at Google.

Abstract: In this talk, Ankur reflects upon his learnings from building and operating cloud, edge, and access networks and poses some thought problems for the research community as it contributes to the next G.

David Soldani
Rakuten Symphony, Australia
“Cloud Native Security and Networking for Current and Future Mobile Communication Systems: Looking at a Zero-Trust Solution to Connecting Intelligence on Ground, Air and Space”

David Soldani received a Master of Science (M.Sc.) degree in Engineering with full marks and magna cum laude approbatum from the University of Florence, Italy, in 1994; and a Doctor of Science (D.Sc.) degree in technology with distinction from Helsinki University of Technology, Finland, in 2006. In 2014, 2016, and 2018 he was appointed Visiting Professor, Industry Professor, and Adjunct Professor at University of Surrey, UK, University of Technology Sydney (UTS), Australia, and University of New South Wales (UNSW), respectively.

Dr. Soldani is currently at Rakuten Symphony serving as Chief Information and Security Officer (CISO), e2e, Global. Prior to that, he was Chief Technology and Cyber Security Officer (CTSO) within ASIA Pacific Region at Huawei; Head of 5G Technology, e2e, Global, at Nokia; and Head of Central Research Institute (CRI) and VP Strategic Research and Innovation in Europe, at Huawei European Research Centre (ERC). David can be reached online at https://www.linkedin.com/in/dr-david-soldani

Abstract: To support the continuous growth of the Internet traffic, each new generation of mobile network (3G, 4G, 5G) is improved with respect to the previous generation, in terms of spectral efficiency, capacity, and energy efficiency. However, each new generation also adds its own cost in terms of spectrum and energy consumption to the costs of all previous already deployed ones. Moreover, it adds its own contribution to the overall Electro-Magnetic Field (EMF) exposure. In most countries, national regulators define the EMF limits based on the guidelines published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). However, some countries or cities have adopted more stringent limits; sometimes ten times lower than the ICNIRP guidelines. More generally, ensuring arbitrarily low EMF exposure may potentially be requested in some areas, by customers, in the future. 6G, currently still at the Research stage, has the opportunity to be the first generation to take into account arbitrarily low EMF exposure in its design. We believe it is now the right time to explore disruptive approaches for transmitting more, with a better EMF exposure awareness.

Dinh-Thuy Phan-Huy
Orange, France
“New 6G Challenges : The Time For Electromagnetic Field Awareness Has Come”

Dinh-Thuy PHAN HUY is currently a research project manager in Orange Innovation/Networks entity. She received a degree in engineering from Supélec, in 2001, and the Ph.D. degree in electronics and telecommunications from the National Institute of Applied Sciences of Rennes, France, in 2015. In 2001, she joined France Telecom R&D (now Orange Innovation), Châliton, France. She led the national French collaborative research projects TRIMARAN (2011-2014) and SpatialModulation (2016-2019).

She participated in the following 5G PPP projects: METIS, Fantastic 5G, mmMAGIC, and 5GCAR. She is co-inventor of more than 40 patents and the co-author of more than 40 papers. She is the recipient of several awards in France: “Prix Impact Economique des Rencontres du Numérique 2016” from the French National Research Agency, “Grand Prix de l’Electronique du General Fernié 2018” from the French Society of Electricity, Electronics and Information and Communication Technologies and the “Prix Irène Joliot Cure 2018 – catégories Femme-Recherche-Entreprise” from the French Ministry of Education and Research.

Her research interests include wireless communications and beamforming, time reversal, spatial modulation, backscattering and intelligent reconfigurable surfaces. She is involved in the EU Flagship project on 6G Hexa-x and leads the work package on sustainability and security in RISE-6G EU project on reconfigurable intelligent surfaces for 6G. She is a member of the Future Networks community of Orange Experts since 2012.

Abstract: To support the continuous growth of the Internet traffic, each new generation of mobile network (3G, 4G, 5G) is improved with respect to the previous generation, in terms of spectral efficiency, capacity, and energy efficiency. However, each new generation also adds its own cost in terms of spectrum and energy consumption to the costs of all previous already deployed ones. Moreover, it adds its own contribution to the overall Electro-Magnetic Field (EMF) exposure. In most countries, national regulators define the EMF limits based on the guidelines published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). However, some countries or cities have adopted more stringent limits; sometimes ten times lower than the ICNIRP guidelines. More generally, ensuring arbitrarily low EMF exposure may potentially be requested in some areas, by customers, in the future. 6G, currently still at the Research stage, has the opportunity to be the first generation to take into account arbitrarily low EMF exposure in its design. We believe it is now the right time to explore disruptive approaches for transmitting more, with a better EMF exposure awareness.
**Abstract:** Rapid growth in the number of connected wireless devices such as mobile phones, low-power IoT devices, connected vehicles, etc. will expand the scale of the next generation of mobile networks i.e. 5G advanced, and 6G. Moreover, the foreseen use cases like connected autonomous vehicles/robots/drones, smart homes, and cities, wireless automation of industrial networks, holographic communication networks, etc. require ultra-low latency and ultra-high reliability. Existing and traditional algorithms are not feasible for the optimization, management, and orchestration of such networks to fulfill the requirements of the emerging use cases with high complexity, high dynamicity, and the massive amount of generated data by connected devices. Recently, artificial intelligence (AI) has been planned to be utilized as a new paradigm for the planning, optimization, management, and automation of next-generation of mobile networks. Machine learning (ML) as a subset of AI will be applied to develop intelligent connected devices and network infrastructures to address the demands of future use cases. The research, study, and development of AI/ML-enabled mobile networks have already been started in academia, industry, and standardization bodies such as 3GPP, O-RAN, ETSI, and ITU. However, the focus is the application of ML in 5G but their outcome will pave the way for 6G. This tutorial aims to give an insight into “AI/ML for 6G” which are the use cases where AI/ML can be applied in 6G optimization and management considering its vision, on one hand. On the other hand, networks’ support for AI/ML algorithms i.e. “6G for AI/ML” with respect to the standardization activities will also be explained.

**Mehdi Harounabadi**
Fraunhofer-Institut für Integrierte Schaltungen IIS, Germany

**Mustafa A. Kishk**
National University of Ireland, Maynooth, Ireland

**Mohamed-Slim Alouini**
King Abdullah University of Science and Technology, Saudi Arabia

**Abstract:** To enable a ubiquitous intelligent information network, the forthcoming sixth generation (6G) wireless communications are expected to provide revolutionary mobile connectivity and high-throughput data services through ultra-massive multiple input multiple output (MIMO). Widely-utilized phased arrays relying on costly components make the implementation of ultra-massive MIMO in practice become prohibitive from both cost and power consumption perspectives. The recent developed reconfigurable holographic surfaces (RHSs) composing of densely packing sub-wavelength metamaterial elements can achieve holographic beamforming without costly hardware components. By leveraging the holographic principle, the RHS serves as an ultra-thin and lightweight surface antenna integrated with the transceiver, thereby providing a promising alternative to phased arrays. In this tutorial, we will first provide a basic introduction of RHSs. We then introduce the unique features of RHSs which mean RHS-enabled ultra-massive MIMO for both communication and sensing, in a comprehensive way. Related design, analysis, optimization, and signal processing techniques will be presented. Typical RHS-based applications for both wireless communications and radio-frequency sensing will be explored. The implementation issues along with our developed prototypes and experiments will also be discussed. Formalized analysis of several up-to-date challenges and technical details on system design will be provided for different applications.

**Lingyang Song**
Peking University, China

**Mohamed-Slim Alouini**
King Abdullah University of Science and Technology, Saudi Arabia

**Mustafa Kishk**
National University of Ireland, Maynooth, Ireland

**Mohamed-Slim Alouini** was born in Tunis, Tunisia. He received the Ph.D. degree in Electrical Engineering from the California Institute of Technology (Caltech) in 1998. He served as a faculty member at the University of Minnesota then in the Texas A&M University at Qatar before joining in 2009 the King Abdullah University of Science and Technology (KAUST) where he is now a Distinguished Professor of Electrical and Computer Engineering. Prof. Alouini is a Fellow of the IEEE and of the OSA. He is currently particularly interested in developing the technical challenges associated with the uneven distribution, access to, and use of information and communication technologies in far-flung, rural, low-density populations, low-income, and/or hard-to-reach areas.

**Mehdi Harounabadi**
Fraunhofer-Institut für Integrierte Schaltungen IIS, Germany

**Mustafa A. Kishk** received the B.Sc. and M.Sc. degrees from Cairo University, Giza, Egypt, in 2013 and 2015, respectively, and the Ph.D. degree from Virginia Tech, Blacksburg, VA, USA, in 2018. He is an assistant professor at the Electronic Engineering Department, Maynooth University, Ireland. Before that, he was a Postdoctoral Research Fellow with the Communication Theory Laboratory, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia. His current research interests include stochastic geometry, energy harvesting wireless networks, UAV-enabled communication systems, and satellite communications.

**Lingyang Song**
(S03-M06-3M12-F’19) received his PhD from the University of York, UK, in 2007, where he received the K. M. Stott Prize for excellent research. He worked as a research fellow at the University of Oslo, Norway until joining Philips Research UK in March 2008. In May 2009, he joined the School of Electronics Engineering and Computer Science, Peking University, and is now a Boya Distinguished Professor. His main research interests involve wireless communication systems, intelligent machine learning, and machine learning. Dr. Song is the co-author of many awards, including IEEE Leonard G. Abraham Prize in 2016, IEEE ICC 2014, IEEE ICC 2015, IEEE Globecom 2014, and the best demo award in the ACM Mobicom 2015. He received National Science Fund for Distinguished Young Scholars in 2017, First Prize in Nature Science Award of Ministry of Education of China in 2017. Dr. Song has served as a IEEE ComSoc Distinguished Lecturer (2015-2016), an Area Editor of IEEE Transactions on Vehicular Technology (2019-), Co-
WALT5G+ Workshop Keynote Speakers

Hongliang Zhang
Princeton University, USA

Hongliang Zhang (S’15-M’19) received the B.S. and Ph.D. degrees at the School of Electrical Engineering and Computer Science at Peking University, in 2014 and 2019, respectively. He was a Postdoctoral Fellow in the Electrical and Computer Engineering Department at the University of Houston, Texas. Currently, he is a Postdoctoral Associate in the Department of Electrical and Computer Engineering at Princeton University, New Jersey. His current research interest includes reconfigurable intelligent surfaces, aerial access networks, optimization theory, and game theory. He received the best doctoral thesis award from Chinese Institute of Electronics in 2019. He is an exemplary reviewer for IEEE Transactions on Communications in 2020. He is also the recipient of 2021 IEEE Comsoc Heinrich Hertz Award for Best Communications Letters and 2021 IEEE ComSoc Asia-Pacific Outstanding Paper Award. He has served as a TPC Member for many IEEE conferences, such as Globecom, ICC, and WCNC. He is currently an Editor for IEEE Communications Letters, IET Communications, and Frontiers in Signal Processing. He has also served as a Guest Editor for several journals, such as IEEE Internet of Things Journal, Journal of Communications and Networks, etc.

Boya Di
Peking University, China

Boya Di (S’17-M’19) obtained her Ph.D. degree from the Department of Electronics, Peking University, China, in 2019. Prior to that, she received the B.S. degree in electronic engineering from Peking University in 2014. She was a postdoc researcher at Imperial College London and is now an assistant professor at Peking University. Her current research interests include holographic radio, reconfigurable intelligent surfaces, multi-agent systems, edge computing, and aerial access networks. She has published over 7 journal papers on the topic of reconfigurable holographic surface aided communications and sensing. She received the best doctoral thesis award from China Education Society of Electronics in 2019. She is also the recipient of 2021 IEEE ComSoc Asia-Pacific Outstanding Paper Award. She serves as an associate editor for IEEE Transactions on Vehicular Technology since June 2020. She has also served as a workshop co-chair for IEEE WCNC 2020&2021.

Claire Loiseaux
Internet of Trust, France

"Cybersecurity: A collective responsibility and power"

Claire Loiseaux is President of Internet of Trust and Eurosmart board member. She works on cybersecurity and certification on various topics, including IOT, smart cards, equipment and infrastructures with large customers and in relationship with the certification ecosystem. Her current hot topics are Automotive, 5G infrastructures, European certification schemes, cybersecurity awareness. Claire holds a Ph.D. in Formal methods from University of Grenoble.

Abstract: In this talk we explore various means to address Cybersecurity challenges

- 5G infrastructures, Clouds, virtualized services are privileged targets for cyber security attacks. Because attacks are relatively easy, impacts can be huge, and resilience level is low. Technical measures can be put in place to limit attack impacts and prevent propagation, to reduce the attack surface and raise all the components to a minimal security level and to sanctuaries the substantial and high security services.

- The cybersecurity strength of system resides in its conception, the clear distribution of the responsibilities and the efficiency of its vulnerabilities management.

- To face the creativity of cyberattackers, it is necessary to build a collective power, embedding all actors of each production line or service, to continuously anticipate, prevent, detect and react to the attacks and to limit their impacts.

We then propose, all stakeholders shall be responsible for their cybersecurity contributions and therefore that any engagement should contain cybersecurity provisions, guarantees during all the lifecycle and capacity to deliver evidence of their security commitments (for each phases : design / run / post mortem ). This way of providing security may impact cybersecurity processes from agile certification and composition schemes until the way to allocate post mortem responsibilities.

This means that all stakeholders shall be responsible for their cybersecurity contributions and therefore that any engagement should contain cybersecurity provisions and guarantees during all the lifecycle.

Roberto Cascella
ECSO, Belgium

“Towards a Resilient and Trusted 5G & Beyond: Current Challenges and Future Directions”

Roberto Cascella is Head of Sector “Technology, Supply Chain & Strategic Autonomy” at the European Cyber Security Organisation (ECSO). He coordinates the two technical ECSO WGs with a high impact on the European cybersecurity strategy: WG6 defines the cybersecurity R&I roadmap for trusted and resilient technologies, and WG1 focuses on standardisation and certification in cybersecurity with the mission to establish trusted supply chains at EU level. He also represents ECSO in different committees, including the SCCG established under the Cybersecurity Act. Before joining ECSO, he worked as Innovation and Research Project Manager and Research Scientist contributing to several EU projects. Roberto holds a Ph.D. (2007) in ICT from University of Trento, an M.Sc. in Telecommunication engineering from Politecnico di Torino and KTH Stockholm (2003).

Abstract: In this talk, we will cover research priorities relevant to resilient 5G/6G communicating infrastructures. An emphasis will be given to aspects linked to risk management, continuous assessment, compliance and certification.
9:00 - 10:30 Tutorial #1: Intelligent 6G networks: Use cases and network’s support for AI/ML (Part I)
Mehdi Harounabadi (Fraunhofer IIS, Germany)

9:00 - 10:30 Tutorial #2: Ultra-Dense LEO Satellite-based Communication Systems: A Novel Modelling Technique (Part I)
Mohamed-Slim Alouini (King Abdullah University of Science and Technology, Tunisia) & Mustafa Kishk (National University of Ireland, Ireland)

9:00 - 10:30 Tutorial #3: Holographic Radio: A New Paradigm for Ultra-Massive MIMO (Part I)
Boya Di & Lingyang Song (Peking University, China) & Hongliang Zhang (Princeton University, USA)

10:30 - 11:00 Coffee Break

11:00 - 12:30 Tutorial #1: Intelligent 6G networks: Use cases and network’s support for AI/ML (Part II)
Mehdi Harounabadi (Fraunhofer IIS, Germany)

11:00 - 12:30 Tutorial #2: Ultra-Dense LEO Satellite-based Communication Systems: A Novel Modelling Technique (Part II)
Mohamed-Slim Alouini (King Abdullah University of Science and Technology, Tunisia) & Mustafa Kishk (National University of Ireland, Ireland)

11:00 - 12:30 Tutorial #3: Holographic Radio: A New Paradigm for Ultra-Massive MIMO (Part II)
Boya Di & Lingyang Song (Peking University, China) & Hongliang Zhang (Princeton University, USA)

12:30 - 13:30 Launch Break / Poster & Demo
Session Chair: Stefano Secci (CNAM, France)

Flexible Communication System for 6G Based on Orthogonal Chirp Division Multiplexing
Vincent Savaux (Institute of Research and Technology b-com, France)

A Lightweight Southbound Interface for Standalone P4-NetFPGA SmartNICs
Mario Patetta (CNAM, France)

An Open Dataset for Beyond-5G Data-driven Network Automation Experiments
Chi Dung Phung (CNAM, France)

Anomaly Detection for 5G Softwarized Infrastructures with Federated Learning
Salah Bin-Ruba (CNAM, France)

Blockgraph: A mobility-aware solution to secure 6G Mesh Networks
David Cordova Morales, Thi Mai Trang Nguyen (Sorbonne Université, France); Pedro B. Velloso (UFRJ, Brazil & Sorbonne Université, France); Guy Pujolle (Sorbonne University, France)

13:30 - 14:00 Opening Ceremony

14:00 - 15:00 Keynote #1: An Innovation Journey Into A 6G Future: Six Holistic Challenges To Solve Today
Mischa Dohler (Ericsson, USA)
Session Chair: Prosper Chemouil (CNAM, France)

15:00 - 15:30 Coffee Break

15:30 - 16:30 Keynote #2: The 6G security challenges
Benoît Jouffrey & Bernhard Quendt (Thales, France)
Session Chair: Guy Pujolle (Sorbonne University, France)

16:30 - 18:15 Technical Session #1
Session Chair: Stefano Secci (CNAM, France)

5G shortcomings and Beyond-5G/6G requirements
Meroua Moussaoui (Orange Telecom, Institut Polytechnique de Paris, IMT, Telecom SudParis, France); Emmanuel Bertin (Orange Labs, France); Noel Crespi (Institut Mines-Télécom, Télécom SudParis, France)

Radio Resource Sharing in 6G Private Networks: Trustworthy Spectrum Allocation for Coexistence through DLT as Core Function (R)
Dennis Krummacker (German Research Center for Artificial Intelligence (DFKI GmbH), Germany); Benedikt Veith (German Research Center for Artificial Intelligence GmbH, DFKI, Germany); Daniel Lindenschmitt (Technische Universität Kaiserslautern, Germany); Hans D. Schotten (University of Kaiserslautern, Germany)

Complex Agent-based Modeling for HetNets Design and Optimization (R)
Mostafa Ibrahim (Oklahoma State University, USA); Umair S Hashmi (National University of Sciences and Technology, USA); Muhammad Nabeel and Ali Imran (University of Oklahoma, USA); Sabit Ekin (Oklahoma State University, USA)

Evolving to 6G: Improving the Cellular Core to lower control and data plane latency (R)
Vivek Jain (University of California Riverside, USA); Sourav Panda, Shixiong Qi and K. K. Ramakrishnan (University of California, Riverside, USA)

18:15 - 19:15 Welcome Reception
11:00 - 11:30 Coffee Break

11:30 - 12:30 Keynote #3: 6G needs to break Shannon’s limits: towards a theory of semantic information
Jean-Claude Belfiore (Huawei Technologies, France)
Session Chair: Merouane Debbah (TII, UAE)

12:30 - 13:30 Launch Break

Mikko Uusitalo (Nokia Bell Labs, Finland)

14:30 - 15:30 Special Session #1
Session Chair: Daniel Benevides da Costa (TII, UAE)

Integrated Sensing and Over-the-Air Computation: Dual-Functional MIMO Beamforming Design (R)
Xiaoyang Li, Fan Liu and Ziqin Zhou (Southern University of Science and Technology, China); Guangxu Zhu (Shenzhen Research Institute of Big Data, China); Shuai Wang (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences & Research Center for Cloud Computing, China); Kaibin Huang (The University of Hong Kong, Hong Kong); Yi Gong (Southern University of Science and Technology, Shenzhen, China)

Performance of Machine Learning Aided Fluid Antenna System with Improved Spatial Correlation Model (R)
Zhi Chai, Kai Kit Wong and Kin-Fai Tong (University College London, United Kingdom (Great Britain)); Yu Chen (Beijing University of Posts and Telecommunications, China); Yangyang Zhang (Kuang-Chi Science Ltd., Taiwan (China)); Yang Cai (University of Southern California, USA); Andrzej Cichocki (Korea University, South Korea); Zhi Chai, Kai Kit Wong and Kin-Fai Tong (University College London, United Kingdom (Great Britain)); Yu Chen (Beijing University of Posts and Telecommunications, China); Yangyang Zhang (Kuang-Chi Science Ltd., Taiwan (China)); Yang Cai (University of Southern California, USA); Andrzej Cichocki (Korea University, South Korea)

14:30 - 15:15 6G use cases and perspectives
Session Chair: Noel Crespi (Institut Polytechnique de Paris, France)

The Network as a Computer Board: Architecture Concepts for In-Network Computing in the 6G Era (R)
Marie-Jose Montpetit (Concordia, Canada)

First Results from Open6GHub – Design Aspects for Emerging Organic 6G Networks (R)
Thomas Magedanz (Fraunhofer-Institut FOKUS, Germany)

15:30 - 16:00 Coffee Break

16:00 - 17:00 Keynote #5: Considerations for the next G
Ankur Jain (Google, USA)
Session Chair: Prosper Chemouil (CNAM, France)

17:00 - 17:45 Special Session #2
Session Chair: Daniel Benevides da Costa (TII, UAE)

Wireless Power Transfer Reflection Policies for Multi-User Ambient Backscatter Communication
Elio Faddoul (University of Cyprus, Cyprus); Ghassan M. Kraidy (University of Cyprus, Cyprus & Notre Dame University - Louaize, Lebanon); Ioannis Krikidis (University of Cyprus, Cyprus)

Digital Twin-enabled 6G Aerial Edge Computing with Ultra-Reliable and Low-Latency Communications
Trung Q. Duong, Dang Van Huynh and Yiju Li (Queen's University Belfast, United Kingdom (Great Britain)); Emiliano Garcia-Palacios (Queens University Belfast, United Kingdom (Great Britain)); Kesxuan Sun (VIAVI Solutions, United Kingdom (Great Britain))

Compute- and Data-Intensive Networks: The Key to the Metaverse (R)
Yang Cai (University of Southern California, USA); Jaime Llorca (New York University, USA); Antonia Tulino (Queens University Belfast, United Kingdom (Great Britain)); Kexxuan Sun (VIAVI Solutions, United Kingdom (Great Britain))
6GNet 2022 Program - Friday, July 08

09:15 - 11:00 Technical Session #3
Session Chair : Antoine Dejonghe (Orange, France)

**Diffusing Surfaces Impact on Backscatter Communication System**
Jean-Marc Kelif (Orange Labs, France); Dinh-Thuy Phan-Huy (Orange, France); Philippe Ratriczak (Orange Innovation, France)

**Conformal Intelligent Reflecting Surfaces for 6G V2V Communications**
Dario Tagliaferri, Marouan Mizmizi, Reza Aghazadeh Ayoubi, Gian Guido Gentili and Umberto Spagnolini (Politecnico di Milano, Italy)

**A Lightweight Joint RIS/BS Configuration Scheme**
Antoine Dejonghe and Zwi Altman (Orange Labs, France); Francesco De Pellegrini (University of Avignon, France); Etan Altman (INRIA, France)

09:15 - 11:00 Technical Session #3
Session Chair : Antoine Dejonghe (Orange, France)

**Towards Decentralized Identity Management in Multi-stakeholder 6G Networks**
Sandro Rodriguez Garzon, Hakan Yildiz and Axel Küpper (Technische Universität Berlin & T-Labs)

15:00 - 16:05 Technical Session #4
Session Chair : Dinh-Thuy Phan Huy (Orange, France)

**A Graph Attention Learning Approach to Antenna Tilt Optimization (Short paper) (R)**
Yifei Jin & Filippo Vannella (KTH Royal Institute of Technology & Ericsson Research, Sweden); Maxime Bouton (Ericsson, USA); Jaeseong Jeong and Ezeddin Al Hakim (Ericsson Research, Sweden)

**Evaluating Inter-Operator Cooperation Scenarios to Save Radio Access Network Energy (Short paper)**
Xavier Marjou, Tangui Le Gléau, Vincent Messié & Benoit Radier (Orange Labs, France); Tayeb Lemlouma (IRISA Lab and Rennes 1 University, France); Gaël Fromentoux (Orange labs, France)

**Is CoMP Beneficial In User-Centered Wireless Networks? (R)**
Shahrukh Khan Kasi (University of Oklahoma, USA); Umair S Hashmi (National University of Sciences and Technology, USA); Muhammad Nabeel, Sabit Ekin & Ali Imran (University of Oklahoma, USA)

15:00 - 16:05 Technical Session #4
Session Chair : Dinh-Thuy Phan Huy (Orange, France)

17:00 - 17:45 New visions for a 6G distributed and secure
Session Chair : Guy Pujolle (Sorbonne University, France)

**New Barriers on 6G Networking: An Exploratory Study on the Security, Privacy and Opportunities for Aerial Networks (R)**
Martin Andreoni (Technology Innovation Institute, UAE)

**Horizontal 6G**
Khaldoun Al Agha (University Paris-Saclay, France)

**Personal HSM, Privacy for Subscribers in 5G/6G Networks**
Pascal Urien (Telecom Paris, France)

19:30 - 23:00 Conference Dinner

11:00 - 11:30 Coffee Break

11:30 - 12:30 Keynote #6: Cloud Native Security and Networking for Current and Future Mobile Communication Systems: Looking at a Zero-Trust Solution to Connecting Intelligence on Ground, Air and Space
David Soldani (Rakuten Symphony, Australia)
Session Chair : Thi-Mai-Trang Nguyen (Sorbonne University, France)

12:30 - 13:30 Launch Break

13:30 - 14:30 Keynote #7: New 6G Challenges : The Time For Electromagnetic Field Awareness Has Come
Dinh-Thuy Phan-Huy (Orange Innovation, France)
Session Chair : Merouane Debbah (TII, UAE)

14:30 - 15:00 Coffee Break

16:05 - 17:15 Panel Session: Distinguished Expert Panel: A roadmap towards sustainable and resilient 6G
Moderator : Mari-Hélène Hamon (Orange, France)

**Rationale :**
6G has been in active research phase for the past few years, with increasing activity on use cases, requirements and technical solutions. Several visions for 6G have stressed the importance that the design of a new generation should natively onboard values such as sustainability and resilience. This panel brings together speakers from academia and industry, representing different sectors, to discuss the status in the preparation of 6G and inherent challenges related to new design objectives, in particular sustainability and resilience.

**Panel Members :**
- Mari-Hélène Hamon (Orange Innovation, France)
- Mehdi Bennis (University of Oulu, Finland)
- David Gesbert (EURECOM, France)
- Eric Hardouin (Orange, France)
- David Soldani (Rakuten Symphony, Australia)
- Mikko Uusitalo (Nokia Bell Labs, Finland)

17:15 - 17:45 Best Paper Award & Closing Conference
### WALT5G+ Workshop - Friday, July 08

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 10:00</td>
<td><strong>Keynote #1: Cybersecurity: A collective responsibility and power</strong></td>
<td>Claire Loiseaux (Internet of Trust, France)</td>
<td></td>
</tr>
<tr>
<td>10:00 - 11:00</td>
<td><strong>Framework for Trustworthy AI/ML in 5G/6G (R)</strong></td>
<td>Sokratis Barmpounakis (WINGS ICT Solutions, Greece), Panagiotis Demestichas (University of Piraeus, Greece)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Trust Enhanced Security for Routing in SDN (R)</strong></td>
<td>Nurefsan Sertbas Bulbul (Universität Hamburg, Germany), Orhan Ermis (Luxembourg Institute of Science and Technology, Luxembourg &amp; LIST, Luxembourg), Serif Bahtiyar (Istanbul Technical University, Turkey), Mehmet Ufuk Caglayan (Yasar University, Turkey), Fatih Alagoz (Bogazici University, Turkey)</td>
<td></td>
</tr>
<tr>
<td>11:00 - 11:30</td>
<td><strong>Coffee Break</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30 - 12:30</td>
<td><strong>Session 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Level of Trust and Privacy Management in 6G Intent-based Networks for Vertical Scenarios (R)</strong></td>
<td>Jesús A. Alonso-López, Luis Alberto Martínez Hernández, Sandra Pérez Arteaga, Ana Lucía Sandoval Orozco, Luis Javier García Villalba (Universidad Complutense of Madrid, Spain), Antonio Pastor (Telefónica I+D &amp; Universidad Politécnica de Madrid, Spain), Diego Lopez (Telefónica I+D, Spain)</td>
<td>Model the Accountability and Liability Aspects of a 5G Multi-Domain On-Demand Security Services: An Unexpected Journey Chrystel Gaber (Orange Labs, France), Anser Yacine (Conservatoire National Des Arts Et Métiers (CNAM) Paris &amp; Orange Labs, France) Defining the Threat Manufacturer Usage Description Model for Sharing Mitigation Actions (R) Sara Nieves Matheu García and Antonio Fernando Skarmeta Gomez (University of Murcia, Spain)</td>
</tr>
<tr>
<td>12:30 - 13:30</td>
<td><strong>Launch Break</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:30 - 14:30</td>
<td><strong>Keynote #2: Towards a Resilient and Trusted 5G &amp; Beyond: Current Challenges and Future Directions</strong></td>
<td>Roberto Cascella (ECSO, Belgium)</td>
<td></td>
</tr>
<tr>
<td>14:30 - 15:00</td>
<td><strong>Coffee Break</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:00 - 15:40</td>
<td><strong>Session 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>The Impact of Manufacturer Usage Description (MUD) on IoT Security</strong></td>
<td>Zeno Heeb, Onur Kalinagac, Wissem Soussi and Gürkan Gür (Zurich University of Applied Sciences (ZHAW, Switzerland)</td>
<td>eSIM Adoption: Essential Challenges on Responsibilities Repartition Chrystel Gaber and Pierrick Kaluza (Orange, France)</td>
</tr>
<tr>
<td>15:40 - 16:40</td>
<td><strong>Panel: Liability and Trust in Future Networks for 2030</strong></td>
<td>Moderator: Gürkan Gür (ZHAW, Switzerland)</td>
<td>Panel Members: Gürkan Gür (ZHAW, Switzerland), Chrystel Gaber (Orange, France), Claire Loiseaux (Internet of Trust, France), Roberto Cascella (ECSO, Belgium)</td>
</tr>
<tr>
<td>16:40 - 17:00</td>
<td><strong>Wrap Up</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- **Keynote #1:** Claire Loiseaux discusses the collective responsibility and power in cybersecurity.
- **Framework for Trustworthy AI/ML in 5G/6G:** Sokratis Barmpounakis and Panagiotis Demestichas present a framework for trustworthy AI/ML in 5G/6G.
- **Trust Enhanced Security for Routing in SDN:** Nurefsan Sertbas Bulbul and colleagues explore trust-enhanced security for routing in SDN.
- **Level of Trust and Privacy Management:** Jesús A. Alonso-López and colleagues discuss the level of trust and privacy management in 6G intent-based networks for vertical scenarios.
- **Launch Break:** A break for participants.
- **Keynote #2:** Roberto Cascella addresses the challenges and future directions for resilient and trusted 5G.
- **Session 3:** Zeno Heeb and colleagues present the impact of MUD on IoT security.
- **Panel:** A panel discussion on liability and trust in future networks led by Gürkan Gür.
- **Wrap Up:** Conclusion of the workshop.
Welcome to Orange Gardens
44, Avenue de la République - 92320 Châtillon

Arriving by public transport
Visitor entrance: 44, Avenue de la République

From Central Paris: Métro Line 13 - Orange Gardens shuttles

Two electric shuttles serve the main Orange Gardens entrance in the morning and at the end of the day. One shuttle originates from the Châtillon Centre train stop; the other one starts at the crossroad Rue André Gide / Avenue de la République, 50 meters from the Métro Line 13 terminus.

Shuttle times:
- Train circuit, from 8 am to 9:45 am, and 5:15 pm to 7:15 pm
- Métro circuit, from 8 am to 9:55 am, and 5:15 pm to 7:15 pm

Three bus routes serve Orange Gardens from the Métro Line 13 terminus: the 38E, 294, and 195.

Arriving by car
Visitor car park entrance: 71, Boulevard de la Liberté

To access the visitor car park, you need to show ID, and give the name of the person you have come to see or the event you will be taking part in.

Allocated visitor spaces are at the far end of Level -1, by the lifts.

160 allocated electric vehicle spaces.

3% of spaces are reserved for visitors with disabilities

Getting to Orange Gardens

From Paris-CDG airport
- RER Line B to Arcueil-Cachan, then Bus 162 (approx. 1h20)
- By car via A1 and Peripherique to Porte de Châtillon (approx. 1h)

From Orly airport
- Orlybus or Orlyval - RER Line B
- Orlybus or Orlyval - RER Line B (approx. 1h6)
- By car via A106 and D986 towards Avenue de la République, Châtillon (approx. 25 mins)

From Châtelet
- Métro Line 1 or Line 3, shuttle (approx. 40 mins)
- By car via Rue Saint-Jacques to traffic circle on Avenue de la République, then D986 towards Avenue de la République, Châtillon (approx. 40 mins)
6GNet 2022 TPC List

Publication Chair

Hamid Aghvami (King’s College London, United Kingdom)
Mohamed-Slim Alouini (KAUST, Saudi Arabia)
Zwi Altman (Orange Labs, France)
Suayb Arslan (MEF University, Turkey)
Hari Balakrishnan (MIT, USA)
Bernard Barani (European Commission, Belgium)
Mohamed Boucadair (Orange, France)
Didier Bourse (Nokia, France)
Marcus Brunner (Huawei, Switzerland)
Emilio Calvanese Strinati (CEA-LETI, France)
Marinos Charalambides (University College London, United Kingdom)
Bruno Chatras (Orange Labs, France)
Periklis Chatzimisios (International Hellenic University (Greece), Greece)
Tao Chen (VTT Technical Research Centre of Finland LTD, Finland)
Kaushik Chowdhury (Northeastern University, USA)
Marceau Coupéchoux (Institut Polytechnique de Paris, France)
Elisabeth de Carvalho (Aalborg University, Denmark)
Filip De Turck (Ghent University – imec, Belgium)
Yansha Deng (King’s College London, United Kingdom)
Rui Dinis (Instituto de Telecomunicações de Portugal, Brazil)
Emmanuel Dotaro (Thales, France)
Guillaume Doyen (IMT Atlantique, France)
Jaafar Elmirghani (University of Leeds, United Kingdom)
Melike Erol-Kantarci (University of Ottawa, Canada)
Barry Evans (University of Surrey, United Kingdom)
Carol Fung (Virginia Commonwealth University, USA)
Christian Gallard (Orange Labs, France)
David Gesbert (Eurecom Institute, France)
Marie-Helene Hamon (Orange Labs, France)
Eric Hardouin (Orange Labs, France)
Artur Hecker (Huawei, Germany)
Jiri Hosek (Brno University of Technology, Czech Republic)
Tobias Hotfeld (University of Würzburg, Germany)
Abbas Jamalipour (University of Sydney, Australia)
Mutlu Koca (Bogazici University, Turkey)
Adien Ksentini (Eurecom, France)
Jeremie Leguay (Huawei Technologies, France Research Center, France)
Noura Limam (University of Waterloo, Canada)
Guangyi Liu (Research Institute of China Mobile, China)
Xiqing Liu (Beijing University of Posts and Telecommunications, China)
Pascal Lorenz (University of Haute Alsace, France)
Thomas Magedanz (Fraunhofer Institute FOKUS / TU Berlin, Germany)
Bruce Maggs (Duke University, USA)
Antonio Manzalini (Telecom Italy, Italy)
Lorenzo Mucchi (University of Florence, Italy)
Thi Mai Trang Nguyen (Sorbonne Université, France)
Michele Nogueira (Federal University of Minas Gerais, Brazil)
Rogier Noldus (Ericsson, The Netherlands)
Giovanni Pau (Sorbonne University, France)
Petar Popovski (Aalborg University, Denmark)
Ari Pouitu (Centre for Wireless Communications University of Oulu, Finland)
Mikael Prytz (Ericsson Research, Sweden)
Vasanthan Raghavan (Qualcomm, Inc., USA)
Manuel Ricardo (Universidade do Porto, Portugal)
Laurent Rouillet (Nokia Bell Labs, France)
Carlos Raniery Santos (Federal University of Santa Maria, Brazil)
Hikmet Sari (NJUPT, France)
Robert Schober (Universität Erlangen-Nürnberg, Germany)
Philippe Sehier (Nokia Bell Labs, France)
Philippe Sehier (Nokia, France)
Osvaldo Simeone (King’s College London, United Kingdom)
Rahim Tafazolli (University of Surrey, United Kingdom)
Tarik Taleb (Aalto University, Finland)
Anurag Thanhtarate (University of Missouri Kansas City, USA)
Mikko Uusitalo (Nokia Bell Labs, Finland)
Cedric Ware (Institut Mines-Télécom, France)
Koji Yamamoto (Kyoto University, Japan)
Mohamed Faten Zhani (ÉTS Montreal, Canada)
Volker Ziegler (Nokia Bell Labs & CTO, Germany)

Local Arrangement

Local Arrangement Chair:
Catherine Arnault (Orange, France)

Local Volunteers:
Jean Steve Tamotchomgui (Orange, France)
Rui Li (Orange, France)
Ali Awarkeh (CNAM, France)
David Kule Mukuhi (CNAM, France)

Web/IT Chair

Elie Ketèis (DnAC, France)

Overall arrangements Chair

Adil El Kani (DnAC, France)

Local Arrangement Chair:
Catherine Arnault (Orange, France)

Local Volunteers:
Jean Steve Tamotchomgui (Orange, France)
Rui Li (Orange, France)
Ali Awarkeh (CNAM, France)
David Kule Mukuhi (CNAM, France)