



Place: CNAM (Conservatoire National des Arts et Métiers)

292 rue Saint Martin

75003 Paris, France

The event is organized by the IMT Centre *Réseaux et Systèmes pour la Transformation Numérique*, the TUM School of Computation, Information and Technology, and CNAM. The event is supported by the German-French Academy for the Industry of the Future (GFA), with expert contributions from Future Networks PEPR, AMI CMA IMTFor5G+, and funding from SEIDO and SYSTEMX.



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Schedule

Monday 20 – Goal-Oriented Communications		
10:30	Welcome Words	
10:45-11:30	Johanne Späth (TUM)	How to produce (research) data from a testbed.
11:40-12:20	Vincent Corlay (Mitsubishi)	Use of semantic communications in a goal-oriented communication context, examples of applications.
Lunch		
14:00-15:45	Marios Kountouris, (Univ. Granada and EURECOM)	Goal-Oriented Semantic Communication: Theory, Algorithms, and System Perspectives.
Break		
16:15-18:00	Marios Kountouris, (Univ. Granada and EURECOM)	Goal-Oriented Semantic Communication: Theory, Algorithms, and System Perspectives.
18:00-20:00	Cocktail	
Tuesday 21 – Distributed AI		
09:00-10:30	Roberto Morabito (EURECOM)	Edge AI in the 6G Era: From Embedded Intelligence to Generative Models at the Edge
Break		
11:00-12:30	Roberto Morabito (EURECOM)	Edge AI in the 6G Era: From Embedded Intelligence to Generative Models at the Edge
Lunch		
14:00-16:00	Pegah Alizadeh (Ericsson Research) Anastasios Giovanidis (Ericsson Research)	Multi-Agent learning to Agentic-AI in Telecom Networks
Break		
16:30-18:00	Charles Beauville (Flower Labs)	The Future of AI training is Federated: A hands-on introduction
Wednesday 22 – Core network		
08:30-10:45	Jérémie Leguay (Nokia)	Network acceleration for AI workloads: an overview of current research activities related to collective communications, load balancing, congestion control.
Break		
11:15-12:30	Quang Huy Tran (Nokia)	Towards autonomous networks with agentic AI, including a small lab/practice together with the talk to demonstrate Nokia's current research on network management automation
Lunch		
13:30-15:30	Yassine Hadjadj-Aoul (IRISA)	Generalizable Network Optimization: GNN Strategies for Network Slicing and Tomography
Break		
16:00-18:00	Stephano SECCI (CNAM)	Closed-loop network automation
19:30-23:00 GALA DINER		
Thursday 23 – Perspectives		
9:00-10:00	Jean-Marie Gorce (INRIA)	Learning CSI in 6G networks
Break		
10:30-11:30	Reda Yaich (SystemX)	AI tools for intrusion detection in IT/OT networks : is it a solution or a problem?
11:30-12:30	Fabien Geyer (Airbus)	Graph Neural network – Performance prediction; use cases from Airbus – inter aircraft.
Lunch		
14:00-15:00	Dinh-Thuy Phan Huy (Orange)	AI for Networks (AI4N) and Networks for AI (N4AI), an operator point of view.
15:00-15:30	Yves Lostanlen (Entrepreneur)	
Break		
16:00-18:00	Panel	Networks and AI – Future directions, future jobs.
Friday 24 - Environmental Sustainability and Acceptability		
9:00-10:30	Shanshan Wang (Télécom Paris)	Environmental impacts and EMF exposure measurements towards sustainable networks
Break		
11:00-12:30	Shanshan Wang (Télécom Paris)	Radiofrequency EMF exposure prediction for both downlink and uplink in urban environments
Lunch		

Monday 20th of October, 10:45-11:30

Introduction

Johannes Späth, TUM School of Computation, Information and Technology,
Technical University of Munich

Title: How to produce (research) data from a testbed.



Monday 20th of October, 11:40-12:20

Goal Oriented and Semantic Communication

Vincent Corlay, Mitsubishi Electric R&D Centre Europe

Title: Use of semantic communications in a goal-oriented communication context, examples of applications.

Vincent Corlay is a researcher at Mitsubishi Electric R&D Centre Europe (Rennes, France) in the group Wireless Communication Systems since 2020. He obtained his PhD degrees from Télécom ParisTech, France, in computer science. In 2021, he received the best thesis award runner-up from Institut Polytechnique de Paris (Top 7 theses).



Marios Kountouris, DaSCI, University of Granada and EURECOM

Title: Goal-Oriented Semantic Communication: Theory, Algorithms, and System Perspectives.

Marios Kountouris received the diploma degree in electrical and computer engineering from the National Technical University of Athens (NTUA), Greece in 2002 and the M.S. degree and the Ph.D. degree in electrical engineering from Télécom Paris, France, in 2004 and 2008, respectively. He is currently a Professor in the Communication Systems Department at EURECOM, France, and a Distinguished Researcher (Research Professor) in the Department of Computer Science and Artificial Intelligence and the Andalusian Research Institute in Data Science and Computational Intelligence (DaSCI), University of Granada, Spain. Prior to his current appointments, he held positions at CentraleSupélec, France, the University of Texas at Austin, USA, the Huawei Paris Research Center, France, and Yonsei University, South Korea. In 2020, he received a Consolidator Grant from the European Research Council (ERC) on goal-oriented semantic communication. He served as an Editor for the IEEE Transactions on Wireless Communications, the IEEE Transactions on Signal Processing, and the IEEE Wireless Communication Letters. He has received several awards and distinctions, including the 2022 Blondel Medal, the 2020 IEEE ComSoc Young Author Best Paper Award, the 2016 IEEE ComSoc CTTC Early Achievement Award, the 2013 IEEE ComSoc Outstanding Young Researcher Award for the EMEA Region, the 2012 IEEE SPS Signal Processing Magazine Award, the IEEE SPAWC 2013 Best Paper Award and the IEEE Globecom 2009 Communication Theory Best Paper Award. He is a Fellow of the IEEE, the AAIA, and the AIIA.



Tuesday 21st of October, 09:00-18:00

Distributed AI

Roberto Morabito (EURECOM)

Title: Edge AI in the 6G Era: From Embedded Intelligence to Generative Models at the Edge



Abstract: As mobile systems move toward the 6G vision of intelligent and responsive infrastructure, Edge AI is a key enabler for bringing intelligence closer to users and data sources. This lecture surveys Edge AI across the computing continuum—from microcontrollers at the extreme edge to cloud-augmented platforms—highlighting how AI workloads can be deployed under real-world constraints. We first cover core concepts: hardware and software heterogeneity, performance optimization on constrained devices, and the role of network-aware orchestration in shaping future 6G edge intelligence. Next, we share empirical insights from benchmarking transformer models on real edge devices, discussing trade-offs in energy efficiency, latency, and deployment complexity, along with the promise of AI-assisted automation of the Edge AI lifecycle. We conclude with the feasibility of Generative AI at the edge, showing how Small Language Models (SLMs) can support local autonomy, reduce cloud reliance, and collaborate across the edge–cloud continuum—pointing to emerging patterns for scalable, GenAI-powered edge intelligence.

Roberto Morabito is an Assistant Professor in the Communication Systems Department at EURECOM. He holds a PhD in Networking Technology from Aalto University and has previously worked as a researcher at Ericsson Research for 8 years and as a postdoctoral fellow at Princeton University's EDGE Lab. His research work intersects IoT, Edge Computing, and Distributed AI, emphasizing the trade-offs in AI service provisioning and orchestration under computing and networking resource constraints. Recently, he has expanded his focus to include the impact of generative AI, such as Large Language Models, particularly in provisioning these models in constrained edge environments. This exploration represents a key part of his broader commitment to advancing next-generation edge intelligence.

Pegah Alizadeh & Anastasios Giovanidis (Ericsson Research)

Title: From Multi-Agent learning to Agentic-AI in Telecom Networks



Abstract: This tutorial explores the evolution from traditional multi-agent systems to agentic AI in the context of Telecom and 6G networks. We begin by presenting representative multi-agent use cases in telecom, highlighting challenges related to adaptive network optimization, dynamic configuration, and intelligent coordination across network elements. Next, we review classical multi-agent methodologies and discuss how they can be adapted to telecom-specific scenarios, supported by some experimental results. We then introduce the concept of agentic AI, emphasizing its potential to enable autonomous, goal-driven decision-making that goes beyond conventional multi-agent frameworks. The tutorial will cover key definitions, methodologies, and the strategic importance of agentic AI for 6G networks, complemented by some practical examples and coding demonstrations.

Pegah Alizadeh is a ML Researcher (PhD, Sorbonne) with experience in Reinforcement Learning, GenAI, and natural language processing. As an AI Research Scientist at Ericsson, she contributes to patents, publications, and research-backed products. Skilled in PyTorch, Python, simulators, and package development. Focused on GPT for decision-making.

Anastasios Giovanidis is a computer science researcher interested in solving fresh research and development problems of information technology by applying advanced mathematical tools and doing validation and experimentation through data. His scientific expertise spans the fields of: probabilistic modeling, optimization, data analytics, machine learning. He has taught courses on these areas at Sorbonne University and Telecom ParisTech. The main focus of his work has been in the field of networks, especially telecom and social networks. However, the techniques that he uses have a very large spectrum of applications.

Charles Beauville (Flower Labs)

Title: The Future of AI training is Federated: A hands-on introduction



Federated Learning (FL) enables collaborative AI training without centralizing data, addressing challenges of privacy, regulation, and scale. In this session, we will introduce the core ideas behind FL, from its motivation to key technical challenges such as non-IID data and system heterogeneity. The second part will be a hands-on walkthrough using the open-source Flower framework, showing how to set up and run your first federated experiments.

Charles Beauville is a Data Scientist currently working at Flower Labs since December 2022. Previously an intern at Arcanite from July 2022 to September 2022, where Charles worked on Natural Language Processing applied to cybersecurity. Charles holds a Bachelor of Science in Computer Science from EPFL and is currently pursuing a Master of Science in Data Science from MIT. Charles is known for their work on developing an open source framework for Federated Learning.

Core Network

Jérémie Leguay (Nokia)

Title: Network acceleration for AI workloads: an overview of current research activities related to collective communications, load balancing, congestion control



Jeremie Leguay received his Ph.D. degree in computer science from Pierre et Marie Curie University, Paris, France. He is Department Head at Nokia Bell Labs Paris Saclay on Network Systems Research. From 2004, he conducted research and led the Networking Lab at Thales Communications and Security (SIX GTS division) where he developed activities on sensor networks, mobile networks, and software-defined networks for mission-critical networked systems. In 2014, he joined Huawei Technologies as leader of the Network and Traffic Optimization Team to conduct research activities on the planning and control of IP networks. He is Senior IEEE member. He has been a Senior Expert and Director of the Datacom Dijkstra Lab at Huawei Technologies. His current activities are mainly on Routing, Network Management and Optimization, Self-driving networks, Automation, Network for AI.

Quang Huy TRAN (Nokia)

Title: Towards autonomous networks with agentic AI, including a small lab/practice together with the talk to demonstrate Nokia's current research on network management automation



Huy Q. Tran is a Research Engineer from the Network Systems Research Department at Nokia Bell Labs, Paris-Saclay, France. His research interests and expertise include AI/ML applications for end-to-end network management, resource allocation and optimization, network programmability and automation. He has actively participated in open-source projects: Linux Networking Foundation OpenDaylight and Telecom Infra Project Open Optical & Packet Transport (TIP OOPT). Moreover, he contributed to the standardization of the technology-agnostic optical transport control interfaces in the Open Network Models and Interfaces Transport API (ONMI TAPI) Working Group.

Yassine Hadjadj-Aoul (IRISA)

Title: Generalizable Network Optimization: GNN Strategies for Network Slicing and Tomography.



Yassine Hadjadj-Aoul is a Full Professor at the University of Rennes, France, where he heads the ESIR's school computer science department since 2022. He is affiliated with the INRIA Ermine team-project and the IRISA Laboratory, which he joined in 2009 when he was hired as an Associate Professor at the University of Rennes. After completing his Ph.D. from the University of Versailles, he further developed his research experience as a postdoctoral researcher at the University of Lille 1 and as a Marie Curie Fellow under the EU FP6 EIF program at University College Dublin (UCD), Ireland. He has been actively involved in the organization of numerous international conferences, serving as General Chair for key events such as ISNCC'2025, ICT-DM'2019, and ISNCC'2018, among others. Additionally, he has taken on major roles, including TPC Chair for IEEE ISCC'2024, WD'2021, and ISNCC'2017, demonstrating his leadership and commitment to the research community. His responsibilities have spanned executive, financial, publication, and publicity roles, reflecting his broad and sustained

engagement in the scientific organization and dissemination of research. A Senior Member of the IEEE and recipient of multiple best paper awards, he has supervised numerous Ph.D. students and postdoctoral researchers and has played a key role in several high-impact projects in the areas of 5G and post-5G systems. He actively contributes to scientific committees and editorial boards, and co-leads both the “AI for Infrastructure” initiative within the French GDR and the SmartNet research action between INRIA and Nokia Bell Labs, which focuses on AI-driven intelligent network management. His primary research interests include congestion control, mobile cloud networking, and QoS/QoE provisioning across the Edge–Cloud continuum.

Stephano SECCI (CNAM)

Title: Closed Loop Automation System for xG networks



In this tutorial, we present a closed-loop automation system that leverages AI to automatically mitigate anomalous states in the connect-compute software infrastructure. We describe the key components of the automation system, including: an anomaly detection module based on federated learning; AI function scheduling to meet detection performance targets while mitigating federated learning stragglers; a data-pipeline design that supports high accuracy, real-time preprocessing, and timely data delivery; a network data sources load-balancing strategy for federated-learning clients; and automated reconfiguration management using deep reinforcement learning (DRL).

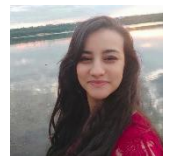
We also deliver a live demo of the core system blocks—showing, in real time, the anomalies detected during the inference phase using federated learning with real-time data pipelining.

Speakers:

Naresh Modina: Dr. Naresh Modina is a post-doctoral researcher at Conservatoire National des Arts et Métiers (Cnam), specializing in the intersection of wireless networks and machine learning. He holds a Ph.D. in computer science from the University of Avignon. His research aims to create more intelligent, efficient, and self-adapting communication systems.



Nour El-Houda Yellas: Nour-El-Houda Yellas is an Associate Professor at Télécom SudParis since December 2024. She obtained the Ph.D. degree in Computer Science from Cnam, Paris in 2023. She was a postdoctoral researcher at Orange Innovation from January 2024 to November 2024 and served as a teaching assistant at Sorbonne University from September 2022 to January 2024. Her research focuses primarily on the automation and optimization of Beyond 5G mobile network orchestration within multi-access edge computing (MEC) infrastructures, leveraging data analytics techniques.



Patient Ntumba: Patient Ntumba is a postdoctoral researcher at the Conservatoire National des Arts et Métiers (CNAM) in Paris, France. He obtained his PhD from Sorbonne University, conducting his doctoral research at the INRIA Paris research center. His research interests focus on networks, distributed systems, and optimization. His current work centers on in-network federated learning and Edge AI inference.

Masoud Baharlouei: Masoud Baharlouei is an engineer at Cnam, Paris, working on automation, containerization, and cloud-native developments. His work focuses on 5G and beyond networks, with interests spanning blockchain, cryptographic algorithms, Docker, Kubernetes, self-hosting, Bitcoin, and related technologies.

Yasmine Chaouche: Yasmine CHAOUCHE is a PhD student at CNAM in Paris, France, affiliated with the CEDRIC research unit. Her research focuses on anomaly detection in xG networks using artificial intelligence. Her thesis investigates data distribution among clients in an in-network federated learning context, aiming to enhance model performance for real-time anomaly detection and improve communication efficiency. She is also interested in the privacy and security aspects of distributed and federated learning systems.

Stefano Secci (moderator): Stefano Secci is professor of communication networks at Cnam, Paris, France; founding member of the Networks and IoT Systems research group, and vice-director and director of the computer science department in 2021-25. His current activity is on the design of novel network automation architecture for 5G and 6G systems.

Thursday 23rd of October, 08:30-18:00

Keynotes, panels

Jean-Marie Gorce, INRIA

Title: Learning CSI in 6G networks

Jean-Marie Gorce (Senior Member, IEEE) received the M.Sc. and Ph.D. degrees in electrical engineering from the Institut National des Sciences Appliquées (INSA), Lyon, France, in 1993 and 1998, respectively. He was the Co-Founder of the Centre for Innovation, Telecommunications and Integration of Services (CITI Lab), in 2001. He was a Visiting Scholar with Princeton University, Princeton, NJ, USA, from 2013 to 2014. He is a Professor with INSA de Lyon. He is currently the Scientific Coordinator of the Experimental Facility CorteXlab affiliated to the SLICES European infrastructure. He has co-published more than 200 conference and journal papers. He has been the Principal Investigator of several French and European sponsored projects related to wireless communications and networking. His research interests include multi-user communicating systems, with approaches combining information theory, coding, distributed algorithms, signal processing, and machine learning.



Fabien Geyer, Airbus

Title: Graph Neural network – Performance prediction; use cases from Airbus – inter aircraft.

Fabien Geyer received the master of engineering degree in telecommunications from Telecom Bretagne, France, in 2011, and the PhD degree in computer science from Technical University of Munich (TUM), in 2015. He is currently with Airbus Central Research & Technologies and Technical University of Munich working on methods for network analytics, network performances, and architectures. His research interests include novel methods for data-driven networking, formal methods for performance evaluation, and modeling of networks.



Reda Yaich IRT SystemX

Title: AI tools for intrusion detection in IT/OT networks : is it a solution or a problem?

Artificial intelligence, and more specifically machine learning, is becoming increasingly prevalent in cybersecurity tools, particularly in network intrusion detection. Two main approaches coexist: misuse detection, which relies on known attack signatures, and anomaly detection, which involves learning normal network traffic behaviour in order to detect any deviations. The latter, powered by machine learning algorithms, can detect unprecedented attacks, such as zero-day attacks or malicious behaviour hidden in legitimate traffic. However, the effectiveness of these models remains threatened by adversarial attacks, which are capable of manipulating network data to deceive the algorithm. The robustness, interpretability and reliability of AI systems applied to network monitoring have thus become critical issues for digital security experts.

Rada Yaich is a senior researcher and specialist in Cybersecurity and Artificial Intelligence. He is leading the Cybersecurity and Networks Research Teams @IRT SystemX. A French Institute of Technology (FIT). He has been working for more than 15 years in the development of Adaptive and User-Centric security mechanisms using AI techniques such as Machine-Learning, Multi-Agent



Systems and Reasoning. His main objective as a human and researcher is to make humans' life safer in an intuitive and non-intrusive manner.

Dinh-Thuy PHAN HUY, ORANGE

Title: AI for Networks (AI4N) and Networks for AI (N4AI), an operator point of view.



Dinh-Thuy PHAN HUY has been a research project manager since 2011 and Referent to the Networks of the Future community of experts since 2023.

In 2001, Dinh-Thuy Phan Huy joined the Group as an engineer. Within France Telecom Research & Development, then Technology and Global Innovation and Orange Innovation, she contributes to preparing the deployment of 3G+, 4G, 5G mobile networks and their developments. In particular, in 2004 she created the internal software tool simulating each new generation according to the international standard, then she set up and directed internal and collaborative academic and industrial research projects producing the first Orange prototypes of smart antennas in 2014, intelligent reconfigurable surface and zero-energy device in 2021. Dinh-Thuy Phan Huy is a graduate of Supélec, doctor in Electronics and Telecommunications from INSA, winner of the Grand Prix de l'Electronique Ferrié and the Irène Joliot-Curie Prize, and 1st Orange Fellow.

Yves Lostanlen, Entrepreneurial executive

Yves Lostanlen is an experienced entrepreneurial executive in the field of cutting-edge technologies (artificial intelligence, Internet of Things, mixed/virtual/augmented reality). He is a technical expert in artificial intelligence. He studied at leading American and European universities (MIT, UCL, University of Rennes, INSA) and holds degrees in engineering, a PhD and a Habilitation à Diriger des Recherches (HDR, accreditation to supervise research). His profile combines expertise in technological products and business management in complex environments. He has international professional experience in management positions in large groups (ENGIE, Siemens), start-ups and scale-ups (AI Redefined, aiXplain, Element AI), innovative SMEs (SIRADEL) and government and academic institutions. He is the author, co-author and subject of articles in leading publications such as Harvard Business Review, Fortune, IEEE proceedings, Les Echos and Challenges.



Friday 24th of October, 08:30-18:00

Environmental Sustainability and Acceptability

Shanshan Wang



Title: Part I: Environmental impacts and EMF exposure measurements towards sustainable networks

Part II: Radiofrequency EMF exposure prediction for both downlink and uplink in urban environments

Shanshan Wang received her MSc degree (with distinction) in wireless communication and signal processing from the University of Bristol, UK, in 2014. Then she worked as a research engineer in Toshiba telecommunication lab in UK. She obtained her Ph.D. degree from Paris-Saclay University in France in 2019, with the thesis title “Modeling and Performance Evaluation of Spatially-correlated Cellular Networks”. From 2015 to 2018, she was with the CNRS in L2S (UMR 8506) as an Early Stage Researcher of the European-Funded Project H2020 ITN-5Gwireless. From 2019 to 2023, she was Postdoctoral researcher in Chair C2M, Telecom Paris, working on assessments and prediction of EMF exposure. From 2023 to 2024, I was assistant professor in ETIS lab in Cergy. She has engaged in several European and French projects, e.g., SEAWave, Goliat, Beyond5G. Her research interests include EMF exposure, statistical and machine learning for applications in wireless communications. She was a recipient of the 2018 INISCOM Best Paper Award.