

# #EURECOM

FACULTY



## COMMUNICATION SYSTEMS DEPARTMENT

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## KEYWORDS

- Information and Communication Theory
- Systems and Protocols for Cellular and Heterogeneous Networks
- Device-centric and machine type communications, Internet of Things
- Cloud and Mobile Computing Architectures
- Open source 5G (OpenAirInterface International Software Alliance)
- Vehicular proximity networks, ITS (Intelligent Transportation Systems)

## KEYWORDS

- Cloud Computing, High-Performance Computing
- Data Management Systems, Big Data
- Deep Learning, Statistical Inference, Computational Statistics
- Vision, Natural Language Processing, Recommender Systems
- Data Integration, Linked Data and Semantic Web

## KEYWORDS

- System and Software Security
- Embedded System Security
- Applied Cryptography and Security Protocols
- Signal Processing for Security and Biometrics
- Security and Privacy for Big Data and Cloud Computing

Communications systems are facing an unprecedented revolution. The emergence of connected cyberphysical and robotical systems coming along side other internet of things applications requires the rethinking of future wireless networks for beyond 5G. In order to provide services to a large population of broadband users \*and\* machines, the redesign of communications strategies, spectrum sharing policies, Qos control and eventually the overall mobile architecture must be carried out, leveraging the research skills offered in the Communication Systems Department from theory, algorithms, to platform and prototype developments.

The Data Science department is guided by an interdisciplinary approach to research, merging contributions from computer science, applied mathematics, machine learning and statistics, while addressing numerous applied problems, ranging from life and environmental sciences, autonomous systems, e-health, ICT, digital preservation and many more. Our research program is centered on the disciplines to learn rich and semantically meaningful data representations, to design and analyze scalable computational approaches to machine learning and complex system simulations, and to build systems that allow storing and processing vast amounts of data, using modern computing and storage hardware.

The Digital Security department covers a broad range of cyber security research related topics. These include various forms of voice and image analysis to perform reliable and attack tolerant biometric treatments. The department members also have a strong expertise in various applied cryptography areas such as, for instance, privacy preserving techniques for machine learning. Last but not least, the department has a strong system security focus from the hardware/firmware level up to the web applications level, including also topics such as network and mobile security, forensics or malware analysis.

# Intro by the Director



**David Gesbert**  
Director of EURECOM

Digital technologies have become ubiquitous, impacting all ways of citizen and corporate life. But they also offer a formidable tool to deal with major societal issues: Energy and natural resource preservation, health and well-being, digital sovereignty, more responsible industrial production, more efficient transport networks, etc.

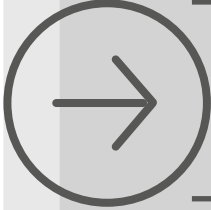
As the saying goes, data is the new gold! But how do we extract this gold and, make the best use of it? i.e. How to design machine learning methods capable of producing relevant information and actions from large and small data sets, which will ease our lives? How does one move this data from the myriads of sensor and device locations where it is sourced to where it is ultimately needed over ultra-efficient communication networks? How do we secure the data and computation wherever it lies (cloud, phones etc.) and how do we achieve all this while preserving digital privacy and trust?

EURECOM teaching and research programs are shaped by a uniquely talented Faculty who is recognized at the international level, tackles all of these fascinating questions, but also forms the digital experts of tomorrow and assists our industry partners in their future vision.

## COMMUNICATION SYSTEMS DEPARTMENT



CYPRUS



ELIA  
PETROS

PROFESSOR

JOINED EURECOM IN 2008



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#Mobile communication techniques

#Wireless networks

## BIOGRAPHY

Petros Elia is a professor in the Communication Systems Department with a special interest in information and computing networks. His research focuses mainly on communication theory, information theory and coding theory, and lately on the intersection between computing, advanced communications, and signal processing. He earned his B.S. in Electrical Engineering at the Illinois Institute of Technology, Chicago, and holds a Master's and a Ph.D. in Electrical Engineering from the University of Southern California, Los Angeles. Before joining EURECOM, he was a postdoctoral scholar at the University of California, San Diego as well as a senior researcher at FTW Vienna. He has published over 110 papers to date.

## LATEST RESEARCH

- Information Theory
- Coding Theory
- Caching
- Distributed Computing
- Wireless Networks
- Biometrics

## VISIBILITY

- ERC Proof of Concept Grant for the project LIGHT-Cache-aided Folding for Reducing VoD Loads in Networks (2022)
- ERC Consolidator Grant for the project DUALITY (2017-2022)
- ANR Jeune Chercheur for the project ECOLOGICAL-BITS-AND-FLOPS (2015-2019)
- A. Khalesi and P. Elia, "Multi-User Linearly-Separable Distributed Computing," in IEEE Transactions on Information Theory, vol. 69, no. 10, pp. 6314-6339, Oct. 2023, doi: 10.1109/TIT.2023.3283967
- E. Parrinello, A. Bazco-Nogueras and P. Elia, "Fundamental Limits of Topology-Aware Shared-Cache Networks," in IEEE Transactions on Information Theory, doi: 10.1109/TIT.2023.3321918.
- B. Serbetci, E. Lampiris, T. Spyropoulos, G. Caire and P. Elia, "Multi-Transmitter Coded Caching Networks With Transmitter-Side Knowledge of File Popularity," in IEEE/ACM Transactions on Networking, vol. 31, no. 3, pp. 1277-1292, June 2023, doi: 10.1109/TNET.2022.3219161.
- H. Zhao, A. Bazco-Nogueras and P. Elia, "Vector Coded Caching Multiplicatively Increases the Throughput of Realistic Downlink Systems," in IEEE Transactions on Wireless Communications, vol. 22, no. 4, pp. 2683-2698, April 2023, doi: 10.1109/TWC.2022.3213475.


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COMMUNICATION SYSTEMS DEPARTMENT



FRANCE



DAVID  
GESBERT  
PROFESSOR, DIRECTOR

JOINED EURECOM IN 2004

- #Statistical signal processing
- #Communication & information theory
- #Future wireless networks
- #Connected robotics for sensing and connectivity



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**BIOGRAPHY**

Prof. David Gesbert (Fellow, IEEE) is serving as Director of EURECOM, Sophia Antipolis, France ([www.eurecom.fr](http://www.eurecom.fr)). He received the Ph.D. degree from TelecomParis, France, in 1997. From 1997 to 1999, he was with the Information Systems Laboratory, Stanford University. He was a founding engineer of Iospan Wireless Inc., a Stanford spin off pioneering MIMO-OFDM (currently Intel). Before joining EURECOM in 2004, he was with the Department of Informatics, University of Oslo. He has published about 350 articles and 25 patents, 7 of them winning IEEE Best paper awards. He has been the Technical Program Co-Chair for ICC2017 and has been named a Thomson-Reuters Highly Cited Researchers in computer science. He is a Board Member for the OpenAirInterface (OAI) Software Alliance. He was a previous awardee of an ERC Advanced Grant in the area of future networks. In 2020, he was also awarded funding by the French Interdisciplinary Institute on Artificial Intelligence for a Chair in the area of AI for the future IoT. In 2021, he received the Grand Prix in Research jointly from IMT and the French Academy of Sciences.

**LATEST RESEARCH**

- Connected robots for sensing and network connectivity 6G wireless networks
- Machine learning for communication networks

**VISIBILITY**

- Winner of 8 IEEE Best Paper Awards ( 4 journals, 4 conferences)
- 2021 Winner of the Grand Prix for Research awarded by IMT-French Academy of Sciences.
- 019 Winner of “Fundamental Research Project of the Year” awarded by the French SCS (Secured Communications) Research and Industry Cluster
- Nominated in one of three finalists teams for the 2016 European Inventor of The Year Award, together with my co-authors Prof Paulraj (Lead inventor, Stanford), and Prof Heath (UT Texas). Our patents (EP1198963, EP1240730) have been selected, for key contributions to Faster Wireless Connectivity through MIMO technology in cellular networks. See articles in the press here (in French newspaper “Les Echos”) and in english here.
- Wins 2015 European Research Council (ERC) Advanced Grant for the “PERFUME” project
- Named in 2014 Thomson-Reuters List of Highly Cited Researchers in Computer Science
- EEE Fellow, 2011



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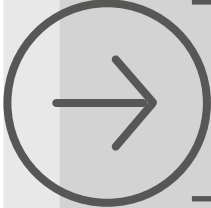


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## COMMUNICATION SYSTEMS DEPARTMENT



SWITZERLAND



JÉRÔME  
HÄRRI  
PROFESSOR

JOINED EURECOM IN 2010



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**#Wireless Access Technologies**

**#Infrastructure and Transportation Planning**

**#Emission and Traffic Efficiency**

### BIOGRAPHY

Jérôme Härrri is a professor in the Communication Systems Department with a special interest in Mobility and Transport Modeling, Positioning and Navigation, and Control System Optimization. He obtained both his M.Sc and his Dr. ès Sc. (PhD) from the Swiss Institute of Technology, Lausanne (EPFL), Switzerland. He has led the Cooperative Automated Transport Systems (CATS) team in the Networked Systems group at the Department of Communication Systems in EURECOM since 2010. Prior to that, he worked at the Institute of Telematics of the Karlsruhe Institute of Technology (KIT), Germany, was a visiting researcher at the Network Research Lab (NRL) at the University of California at Los Angeles (UCLA), and a Guest Researcher at the National Institute of Technologies (NIST), Washington DC, USA. He has published over 170 papers to date.

### LATEST RESEARCH

- Mobile Wireless Systems
- Mobility and Transport Modeling
- Positioning and Navigation
- Control System Optimization

### VISIBILITY

- C. M. R. Carletti, C. Casetti, J. Härrri and F. Risso, "Platoon-Local Dynamic Map: Micro cloud support for platooning cooperative perception," 2023 19th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), Montreal, QC, Canada, 2023, pp. 405-410,
- Best Poster Award for the poster "A control mechanism with an AI-based solution for safe autonomous driving in roundabouts" (BMW EURECOM TUM Summer School 2022)
- J. Yan and J. Härrri, "On the Feasibility of URLLC for 5G-NR V2X Sidelink Communication at 5.9 GHz," GLOBECOM 2022 - 2022 IEEE Global Communications Conference, Rio de Janeiro, Brazil, 2022, pp. 3599-3604,
- Best Poster Award for the poster "Accounting for localization errors in a mixed-vehicle centralized control system" (MFTS 2018).



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COMMUNICATION SYSTEMS DEPARTMENT



AUSTRIA



FLORIAN  
KALTENBERGER

ASSOCIATE PROFESSOR

JOINED EURECOM IN 2007



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#Software defined radio

#OpenAirInterface

#5G radio access

**BIOGRAPHY**

Florian Kaltenberger is an associate professor in the Communication Systems Department with a special interest in signal processing for wireless communications, MIMO communication systems, receiver design and implementation, MIMO channel modeling and simulation, and hardware implementation issues. He received his Diploma degree (Dipl.-Ing.) and his PhD both in Technical Mathematics (with distinction) from the Vienna University of Technology. He started his career as a junior researcher in the wireless communications group at Austrian Research Centers GmbH, where he was working on the development of low-complexity smart antenna and MIMO algorithms as well as on the ARC SmartSim real-time hardware channel simulator. He joined EURECOM as a postdoctoral research engineer in 2007 and has been teaching since 2011. He has published over 130 papers to date.

**LATEST RESEARCH**

- Software defined radio, OpenAirInterface, 5G radio access
- Massive and distributed MIMO, exploitation of channel reciprocity

**VISIBILITY**

- Member of the team managing the EURECOM real-time open-source testbed OpenAirInterface.org.
- Coordinating the developments of the OAI radio access network project group
- Best Presentation Award for the article "First field trial results of hybrid positioning with dedicated 5G terrestrial and UAV-based non-terrestrial networks" (ION GNSS+ 2023)
- Best Booth Award for the project ADEL (EUCNC 2016)
- Senior Member of the IEEE;
- Associate Editor for Computer Networks journal
- On sabbatical leave at the Institute for the Wireless Internet of Things at Northeastern University during 2023-2024.



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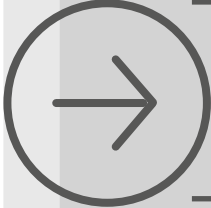


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## COMMUNICATION SYSTEMS DEPARTMENT



CANADA-FRANCE



**RAYMOND  
KNOPP**

PROFESSOR, DEPARTMENT HEAD

JOINED EURECOM IN 2000



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**#5G**

**#Signal Processing Technologies**

**#Software radio architectures**

### BIOGRAPHY

Raymond Knopp is a professor in the Communication Systems Department with a special interest in coding, multiple access and two-way transmission techniques in radio communications, software radio architectures and implementation technology, and physical-layer abstraction and emulation architectures for radio networks. He is actively involved in numerous collaborative research projects with industry in the area of wireless communication systems. He received his B.Eng. (Honours) and a M.Eng. degrees in electrical engineering from McGill University, Montreal, Canada, followed by a PhD in communication systems from the Swiss Federal Institute of Technology Lausanne (EPFL). He was a researcher at EPFL prior to joining EURECOM in 2000. He has published over 300 papers to date.

### LATEST RESEARCH

- Coding
- Multiple access and two-way transmission techniques in radio communications
- Software radio architectures and implementation technology
- Physical-layer abstraction and emulation architectures for radio networks

### VISIBILITY

- Elected Head of Communication Systems department since 2022
- H2020/5G-PPP projects 5G-EVE (2018-2021), 5G-RECORDS (2019-2022)
- HE projects SNS Imagine-B5G (2022-2025), CoreNext (2022-2025), SLICES-PP/SC (2022-2025)
- Steering Committee of the GIS SLICES-FR
- Elected as the President of the OSA (OpenAirInterface Software Alliance) in December 2018.
- IEEE Member for over twenty years
- Member of the technical program committee of several major IEEE conferences
- Special guest editor for the IEEE Journal of Selected Areas in Communications (Aug. 2004) on the topic of fundamental performance limits of wireless sensor networks
- Special guest editor for the IEEE Journal of Selected Areas in Communications (Fall 2023) on the topic of OpenRAN



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## COMMUNICATION SYSTEMS DEPARTMENT



GREECE



MARIOS  
KOUNTOURIS

PROFESSOR

JOINED EURECOM IN 2019



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- #Goal-oriented Semantic Communications
- #Machine learning for Networked Systems
- #Quantum Information

### BIOGRAPHY

Marios Kountouris is a Professor in the Communication Systems department with a special interest in information and communication theory, goal-oriented semantic communications, machine learning for communications, and quantum systems.

He received the diploma degree in electrical and computer engineering from the National Technical University of Athens (NTUA), Greece in 2002 and the M.S. and Ph.D. degrees in electrical engineering from Télécom Paris, France in 2004 and 2008, respectively. He has held positions at CentraleSupélec, France, the University of Texas at Austin, USA, Huawei Paris Research Center, France, and Yonsei University, S. Korea. He is an IEEE Fellow, an AAIA Fellow, and a Professional Engineer of the Technical Chamber of Greece.

### LATEST RESEARCH

- Communication theory
- Goal-oriented semantic communications
- Machine learning for networked systems
- Quantum Information

### VISIBILITY

- 2022 Médaille Blondel “for his contributions to the theory of communications and its applications to MIMO and heterogeneous wireless networks”, awarded by the SEE- Society for Electricity, Electronics and Information and Communication Technologies
- IEEE Fellow
- ERC Consolidator Grant for his project SONATA (2021-2026)
- 2020 Young Author Best Paper Award 2020 for the article: “Cooperative Caching and Transmission Design in Cluster-Centric Small Cell Networks” by the IEEE Communication Society
- 2016 IEEE ComSoc Communication Theory Technical Committee Early Achievement Award
- 2013 IEEE Communication Society (ComSoc) Outstanding Young Researcher Award for the EMEA Region
- 2014 EURASIP Best Paper Award – EURASIP Journal on Advances in Signal Processing
- Special guest editor for the IEEE Journal of Selected Areas in Communications (Fall 2023) on the topic of OpenRAN



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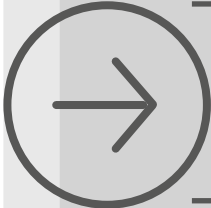


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## COMMUNICATION SYSTEMS DEPARTMENT



ALGERIA



ADLEN  
KSENTINI

PROFESSOR

JOINED EURECOM IN 2016



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#Multimedia content delivery

#Network architectures and protocols

## BIOGRAPHY

Adlen Ksentini is a professor in the Communication Systems Department with a special interest in mobile and wireless networks, software defined networking, mobile edge computing, network function virtualization, content delivery networks, and performances evaluation. He has participated in several industrial projects involving Orange, TDF, Thomson Video Networks, IRT BCOM, and NEC Germany. He received a Master degree (DEA) in networks and multimedia from Université de Versailles, St. Quentin en Yvelines, followed by a Ph.D. in Computer Science from Université de CergyPontoise. He has published over 190 papers to date.

## LATEST RESEARCH

- Mobile and wireless Networks
- Software Defined Networking (SDN)
- Mobile Edge Computing (MEC)
- Network Function Virtualization (NFV)
- Content Delivery Networks (CDN)
- Performances evaluation

## VISIBILITY

- Member of the Editorial Board of "IEEE JSAC Network Sotarization", "IEEE Network Magazine", and "IEEE Networking Letters"
- Best Paper Award for the article "Efficient virtual evolved packet core deployment across multiple cloud domains" (WCNC 2018)
- IEEE Fred W. Ellersick Prize for his paper "Cache in the air: exploiting content caching and delivery techniques for 5G systems" (2017)
- Numerous Best Paper Award
- I. Alawe, A. Ksentini, Y. Hadjadj-Aoul and P. Bertin, "Improving Traffic Forecasting for 5G Core Network Scalability: A Machine Learning Approach," in IEEE Network, vol. 32, no. 6, pp. 42-49, November/December 2018, doi: 10.1109/MNET.2018.1800104
- A. Ksentini and N. Nikaiein, "Toward Enforcing Network Slicing on RAN: Flexibility and Resources Abstraction," in IEEE Communications Magazine, vol. 55, no. 6, pp. 102-108, June 2017, doi: 10.1109/MCOM.2017.1601119.



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COMMUNICATION SYSTEMS DEPARTMENT



TURKEY



DERYA  
MALAK

ASSISTANT PROFESSOR

JOINED EURECOM IN 2021



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- #Future Generation Networks
- #6G #Information Theory
- #Distributed Computation

**BIOGRAPHY**

Originally from Turkey, she did her bachelor’s at the Middle East Technical University, Ankara, and her master’s at Koc University, Istanbul, both in electrical engineering. As a student, inspired by her professors she decided to follow an academic career. Hence, she pursued a PhD in wireless communications, specifically on device-to-device communications and random access networks, at the University of Texas, Austin, under the supervision of Prof. Jeff Andrews. At that time, she realised that she would like to diversify her background, leading to her postdoc on information-theoretic concepts at MIT with Prof. Muriel Médard. In 2019, after her enriching postdoc experience, she got a faculty position at Rensselaer Polytechnic Institute (RPI) in New York State, where she worked at the intersection of information theory and computation areas by capturing the confluence of storage, communication, and computation aspects. Since 2021, Derya Malak has been an assistant professor at the Communication Systems Department at EURECOM.

**LATEST RESEARCH**

- Distributed computation over networks
- Information theory
- Wireless communication and caching algorithms

**VISIBILITY**

- Aug’23- Best paper award (with Y. Li, S. Ioannidis, E. Yeh, and M. Médard) in the 21st International Symposium on Modeling and Optimization in Mobile, Ad hoc, and Wireless Networks (WiOpt 2023). (pdf, codes thanks to Yuanyuan Li, news)
- Nov’22- ERC Starting Grant for project SENSIBILITÉ “Computing Nonlinear Functions over Communication Networks” at the intersection of computation and information theory (read our blog).
- Sep’22- Best paper award in the 20th International Symposium on Modeling and Optimization in Mobile, Ad hoc, and Wireless Networks (WiOpt 2022). (pdf)
- May’22- Organisation of student seminar series called FASS.



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## COMMUNICATION SYSTEMS DEPARTMENT



ITALY



ROBERTO  
**MORABITO**

ASSISTANT PROFESSOR

JOINED EURECOM IN 2024



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**#IoT**

**#EdgeComputing**

**#DistributedAI**

### BIOGRAPHY

Roberto Morabito is an Assistant Professor in the Communication Systems Department at EURECOM, France. Before joining EURECOM, he was a Senior Researcher at the Department of Computer Science, University of Helsinki. From May 2014 to April 2022, he was part of Ericsson Research Finland, contributing to the Cloud and System Platforms teams until March 2018, and subsequently to the IoT Technologies and Cyber-Physical Systems team. Between 2014 and 2018, Roberto was a Marie Skłodowska-Curie research fellow within the FP7 ITN project 'METRICS.' He earned his PhD in Networking Technology from Aalto University, Finland, in May 2019. From June 2019 to March 2021, he served as a Postdoctoral Researcher at the EDGE LAB, School of Electrical and Computer Engineering, Princeton University, USA. Roberto has also been a visiting researcher at INRIA Lille, France, the Technical University of Munich, Germany, and Yale University, USA. His work intersects IoT, Edge Computing, and Distributed AI, focusing on trade-offs in AI service provisioning and orchestration under computing and networking resource constraints. Recently, he started exploring the impact of generative AI, like Large Language Models, in these contexts. Previously, he investigated diverse topics in networked systems, including IoT protocols, virtualization, and service mesh technologies.

### LATEST RESEARCH

- Next-Generation Edge Intelligence
- Networked AI Systems
- TinyML as a Service
- Provisioning Large Language Models in Constrained Edge Environments

### VISIBILITY

- Best Demo Award at the 41st IEEE International Conference on Distributed Computing Systems (ICDCS 2021).
- MARIE CURIE Fellowship as part of the EU-funded project Measurement for the Europe: Training and Research for Internet Communications Science (METRICS).



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COMMUNICATION SYSTEMS DEPARTMENT



IRAN-FRANCE



NAVID  
NIKAEIN  
PROFESSOR

JOINED EURECOM IN 2009

- #Mobile Advanced Networks
- #5G #Private5G #OpenRAN
- #Mobile Application & Services
- #BubbleRAN #Mosaic5G
- #OpenAirInterface



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**BIOGRAPHY**

Navid Nikaein is a Professor in the Communication Systems Department at EURECOM and the founder and CEO of BubbleRAN. At EURECOM, he is leading a R&D group on experimental 4G/5G system research for emerging use-cases found in private 5G and Open RAN. At BubbleRAN, he is helping organizations to seamlessly build, operate, and automate their private 4G/5G network infrastructure by consolidating open RAN architecture and cloud-native intelligence to offer greater efficiency, scalability and performance. He is the founder of Mosaic5G, co-founder of OpenAirInterface, and a board member of OpenAirInterface Software Alliance. He received his HDR degree (Habilitation) from University of Nice Sophia-Antipolis UNICE in 2015, and Ph.D. degree in communication systems from the Swiss Federal Institute of Technology EPFL in 2003. He has a proven track in collaborative research projects related to 5G and beyond in the context of European Programmes. He has published more than 200 papers and holds several patents in the area of mobile communication systems.

**LATEST RESEARCH**

- Cloud-Native 5G/6G Open RAN
- Telco optimized edge cloud and applications
- Open and explainable large-language model for telecom
- Openness, Trustworthiness, and Sustainability in Telecommunications
- Design & development of Open Source HW/SW platforms for 5G/6G

**TEACHING**

- Responsible for a Master Program on Intelligent Communication Systems
- Graduate course on mobile communication systems, Open RAN, mobile advanced networks.
- Continuing education programs for industry, on behalf of EURECOM, on specific topics of interest in state-of-the-art wireless communication systems.

**VISIBILITY**

- Founder of BubbleRAN start-up in 2021
- Board member of OpenAirInterface Software Alliance
- Founder of Mosaic-5G initiative
- Co-Founder of OpenAirInterface
- Guest Editors, panelist, & (co-)Chairs on scientific events
- Industrial partnership



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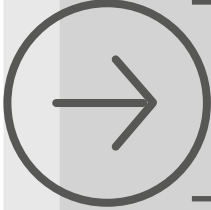


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COMMUNICATION SYSTEMS DEPARTMENT



INDIA



ARUN  
PADAKANDLA

PROFESSOR

JOINED EURECOM IN 2023



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H-index

#Quantum information theory

BIOGRAPHY

Professor Padakandla secured his master’s degree from the Institute of Science in Bengaluru in 2008. He then began his doctoral studies in the Electrical Engineering Department at the University of Michigan (UMICH), focusing on classical information theory and communication theory. During his doctoral studies, he was awarded a Master of Science in Mathematics by the Mathematics Department, UMICH in 2013. In 2014, he was awarded the Doctoral degree in EE:Systems by the Electrical Engineering department, University of Michigan. Following his PhD, Dr. Padakandla worked as a Research Engineer at Ericsson Research from 2014 to 2015, during which he contributed to the design of short range radio for IoT applications and then-current technologies. In 2015, he was awarded a prestigious postdoctoral fellowship from the National Science Foundation’s (NSF) Centre for the Science of Information (CSol). CSol was a multi-university research initiative (MURI) formed by NSF comprising of leading universities such as Stanford, Berkeley, MIT, Purdue, Illinois, among others to conduct research in the broad areas of information science with focus on discovering the theoretical underpinnings of information processing strategies.

LATEST RESEARCH

- information theory
- quantum Information theory
- quantum statistics

VISIBILITY

- A. Padakandla, “An Achievable Rate Region for 3–user Classical-Quantum Broadcast Channels”, in Proceedings of 2022 IEEE International Symposium on Information Theory. Preprint available at <https://arxiv.org/abs/2203.00110>.
- S. Chakraborty, A. Padakandla and P. Sen, “Centralised multi link measurement compression with side information,” 2022 IEEE International Symposium on Information Theory (ISIT), 2022, pp. 61-66, doi: 10.1109/ISIT50566.2022.9834895.
- A. Padakandla, A. Magner “PAC Learning of Quantum Measurement Classes : Sample Complexity Bounds and Universal Consistency”, Proceedings of the 25th International Conference on Artificial Intelligence and Statistics (AISTATS 2022), PMLR.
- A. Padakandla, “Communicating Correlated Sources over MAC and Interference Channels II : Joint Source-Channel coding”, in IEEE Transactions on Information Theory, Vol. 67, No. 6, June 2021, pp. 3847-3872, June 2021, doi: 10.1109/TIT.2021.3069756.
- “An Algebraic and Probabilistic Framework for Network Information Theory”, Foundations and Trends(r) in Communications and Information Theory: Vol. 18: No. 2, pp 173-379. <http://dx.doi.org/10.1561/01000000083>.



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COMMUNICATION SYSTEMS DEPARTMENT



**DIRK SLOCK**  
PROFESSOR

JOINED EURECOM IN 1991



**53**  
H-index

- #Signal Processing
- #Communications
- #Machine Learning

**BIOGRAPHY**

Dirk Slock is a professor in the Communication Systems Department with a special interest in transmitter and receiver design for 5G/6G systems, machine learning and audio signal processing. He has taught speech coding for mobile communications, signal modeling and coding, radio engineering, advanced topics in wireless, and currently teaches statistical signal processing and signal processing techniques for communications. He holds an engineering degree from the University of Gent, Belgium (1982). He then received a Fulbright scholarship for Stanford University (1984), and earned there M.S degrees in Electrical Engineering and Statistics, as well as a Ph.D. in Electrical Engineering. Prior to joining EURECOM in 1991, he was a member of the research staff at the Philips Research Laboratory Belgium. He cofounded in 2000 SigTone, a start-up developing music signal processing products, and in 2014 NestWave, now part of NextNav (localization). He has published over 560 papers to date.

**LATEST RESEARCH**

- Transmitter and receiver design for 5G/6G systems, with multiple antennas/users/cells, imperfect Channel State Information at the Transmitter (CSIT), interference management, Massive MIMO, cognitive radio, full duplex radio, localization
- Large random matrices, multi-antenna stochastic geometry
- Audio signal processing: acoustic echo cancelation, dereverberation, source separation
- Joint Wiener filtering and parameter estimation, empirical and variational Bayesian techniques, message passing, compressive sensing, sparse Bayesian learning

**VISIBILITY**

- Nominated “Chevalier dans l’Ordre des Palmes Académiques”, 2023
- Best Student Paper Award for the paper entitled “Approximate Message Passing for Not So Large iid Generalized Lineal Models” (IEEE SPAWC 2023)
- Outstanding Reviewer Award (ICASSP 2019)
- Medal CNFRS URSI-France 2018
- Fellow Distinction from EURASIP (2015)
- Fellow Distinction from IEEE (2006)
- Inventor of semi-blind channel estimation, the chip equalizer-correlator receiver (3G), MIMO-CDD, which is now part of Long-Term Evolution, and the single antenna interference cancellation (GSM standard)
- Involved in 10 ANR projects and 9 European projects. In France, he has (had) direct research contracts with Philips, Orange Labs, Intel, ST-Ericsson.



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COMMUNICATION SYSTEMS DEPARTMENT



CYPRUS



FOTIOS  
STAVROU  
ASSISTANT PROFESSOR

JOINED EURECOM IN 2021



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H-index

- #Information theory
- #Stochastic control
- #Wireless communications

**BIOGRAPHY**

Fotios (Photis) A. Stavrou received his Diploma in Electrical and Computer Engineering from the Department of Electrical and Computer Engineering (ECE), Aristotle University of Thessaloniki (AUTH) in 2008. He was awarded his Ph.D. degree in Electrical Engineering from the Department of ECE, University of Cyprus (UCY) in June 2016. From November of 2016 to October 2017, he was a postdoc at the Department of Electronic Systems at Aalborg University in Denmark. From November 2017 to November 2021, he was a Postdoc and Researcher within the Division of Information Sciences and Engineering at KTH Royal Institute of Technology in Sweden. From December 2021 to August 2022 he was a Senior Researcher at EURECOM and as of September 2022, he is an Assistant Professor at EURECOM within the Communication Systems Department. His main research targets the fundamental understanding of a radically new goal-oriented communication paradigm. In other words, his research aims to put into a meaningful mathematical framework the so-called semantics of information, i.e., the significance and usefulness of messages with respect to the goal of data exchange and the overall application. He is also interested in understanding the fundamental limitations of networked control systems. The study of those systems is interdisciplinary because it combines tools from control and estimation theories, communication, optimization, and numerical analysis.

**LATEST RESEARCH**

- Information theory
- Stochastic Control/ Optimization
- Coding
- Game theory
- Wireless Communications
- Markov Decision Processes

**VISIBILITY**

- 6G-GOALS: European Commission under HORIZON-JU-SNS (acceptance rate: 7%) for the project “6G-Goal-Oriented AI-Enabled Learning and Semantic Communication Networks” (expected starting date: January 2024).
- Keynote Talk: International Workshop on Learning and Information Theory, Shenzhen-Hong Kong, July 2023
- INDUSTRIAL PROJECT (CIFRE): Industrial collaboration with HUAWEI Technologies France for the project: “Automatically driven Optical Networks”. (2023-2026)
- IEEE Senior Member



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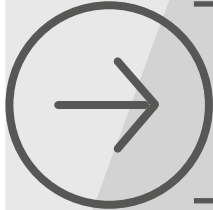
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## DATA SCIENCE DEPARTMENT



INDIA



RAJA  
**APPUSWAMY**  
 ASSISTANT PROFESSOR

JOINED EURECOM IN 2018

#dataintensivesystems

#bioinformatics

#digitalpreservation

#computationalgenomics

#molecularinformationstorage



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## BIOGRAPHY

Raja Appuswamy is an Assistant Professor in the Data Science Department. He is also a Visiting Professor at EPFL. Previously, he worked as a Visiting Researcher in the Systems and Networking group at Microsoft Research, Cambridge, and as a Software Development Engineer in the Windows 7 kernel team at Microsoft, Redmond. He received his PhD in Computer Science from the Vrije Universiteit, Amsterdam, where he worked on designing and implementing a new storage stack for the MINIX 3 microkernel operating system. He also holds dual master's degrees in computer science and Agricultural Engineering from the University of Florida.

## LATEST RESEARCH

- Molecular storage systems
- Hardware-accelerated data management systems
- Bioinformatics & computational genomics

## VISIBILITY

- Project Coordinator of the project Horizon Europe SYCLOPS
- Y. Yan, N. Pinnameneni, S. Chalapati, Conor Crosbie, R. Appuswamy, Scaling logical density of DNA storage with enzymatically-ligated composite motifs, Scientific Reports, 2023
- Marinelli, Eugenio; Yan, Yiqing; Magnone, Virginie; Dumargne, Marie-Charlotte; Barbry, Pascal; Heinis, Thomas; Appuswamy, Raja, Towards migration-free "just-in-case" data archival for future cloud data lakes using synthetic DNA, VLDB 2023
- Intel Innovator, Intel Cross Architecture Challenge Award
- A Biologically constrained encoding solution for longterm storage of images onto synthetic DNA EUSIPCO 2019 (Best student paper award)
- OligoArchive project: Using DNA in the DBMS storage hierarchy CIDR 2019
- Best Paper Award for him and his co-authors for the article entitled "DNA Coding for Image Compression Techniques". (CORESA 2018, 12-14 November 2018, Poitiers, France).



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## DATA SCIENCE DEPARTMENT

JAPAN



MOTONOBU  
KANAGAWA

ASSISTANT PROFESSOR

JOINED EURECOM IN 2019

**#Statistical Machine Learning**

**#Simulation**

**#Scientific Computing**

**#Probabilistic numerics**

**#Gaussian processes**



### BIOGRAPHY

Motonobu Kanagawa is an assistant professor in the Data Science Department, working on statistical machine learning. He is interested in learning algorithms with strong theoretical guarantees, such as kernel methods and Gaussian processes, and their applications in scientific computing and simulation. He earned his M.S. from Nara Institute of Science and Technology, Japan, and a PhD in Statistical Science from the Graduate University for Advanced Studies / The Institute of Statistical Mathematics, Japan. Prior to joining EURECOM in September 2019, he was a research scientist with the Chair for the Methods of Machine Learning at the University of Tübingen and at the Max Planck Institute for Intelligent Systems in Germany.

### LATEST RESEARCH

- Intergenerational risk sharing in a defined contribution pension system: analysis with Bayesian optimization (2023)
- Comparing Scale Parameter Estimators for Gaussian Process Regression: Cross Validation and Maximum Likelihood (2023)
- When is Importance Weighting Correction Needed for Covariate Shift Adaptation? (2023)

### VISIBILITY

- Chair in 3IA Côte d'Azur (Interdisciplinary Institute for Artificial Intelligence) (2021)
- Participation in international conferences



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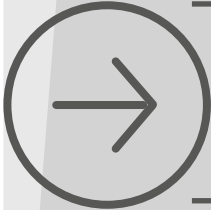


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## DATA SCIENCE DEPARTMENT



ITALY



PIETRO  
MICHARDI

PROFESSOR, HEAD OF DEPARTMENT

JOINED EURECOM IN 2005



**#Machine Learning**

**#Probabilistic Perception**

**#Generative Modeling**

### BIOGRAPHY

Pietro Michiardi received his M.S. in Electrical Engineering from Politecnico di Torino and his M.S. in Computer Science from EURECOM. Pietro received his Ph.D. in Computer Science from Telecom ParisTech, and his HDR (Habilitation) from UCA. Pietro is a Full Professor and head of the Data Science Department at EURECOM. In his work, Pietro focuses on methodological advances in machine learning, Bayesian Inference, generative modelling and representation learning. Pietro is interested in developing a theoretical understanding of methods that learn from data, in methodological aspects of computationally efficient inference approaches, and their application to industrial domains such as the automotive, telecommunication and financial industries. In the past, Pietro worked on a wide range of research topics, including: computer networks and their performance evaluation, applied cryptography, applied game theory, distributed systems, and data management systems. Pietro has published over 160 research papers to date.

### LATEST RESEARCH

- Representation Learning
- Generative Modeling
- Bayesian Inference

### VISIBILITY

- Franzese, G., Corallo, G., Rossi, S., Heinonen, M., Filippone, M. and Michiardi, P., Continuous-time functional diffusion processes. in NeurIPS 2023.
- Franzese, G., Rossi, S., Yang, L., Finamore, A., Rossi, D., Filippone, M. and Michiardi, P., How much is enough? A study on diffusion times in score-based generative models. *Entropy*. 25, 4 (2023), 633.
- Franzese, G., Milios, D., Filippone, M. and Michiardi, P., Revisiting the effects of stochasticity for hamiltonian samplers. *ICML (2022)*, 6744–6778.
- Tran, B.-H., Rossi, S., Milios, D., Michiardi, P., Bonilla, E.V. and Filippone, M., Model selection for bayesian autoencoders. *NeurIPS*. 34, (2021), 19730–19742.
- Best Paper Award for the article “Access-time Cache Aware Algorithms” (ITC 2016)
- Etoiles de l’Europe for the Project FP7 BIGFOOT (2016)



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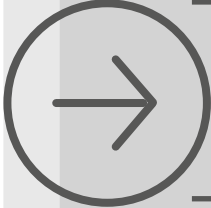


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## DATA SCIENCE DEPARTMENT



ITALY



PAOLO  
PAPOTTI

PROFESSOR

JOINED EURECOM IN 2017



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#Data Management

#AI

#NLP

### BIOGRAPHY

Paolo Papotti is a professor in the Data Science Department with a special interest in the intersection of data management and NLP, including data integration and cleaning, table representation learning, computational fact checking and large language models.

He got his Ph.D. from Roma Tre University (Italy) in 2007 and had research positions at the Qatar Computing Research Institute (Qatar) and Arizona State University (USA). He has authored more than 150 publications and his work has been recognized with two "Best of the Conference" citations (SIGMOD 2009, VLDB 2016), three best demo awards (SIGMOD 2015, DBA 2020, SIGMOD 2022), and two Google Faculty Research Award (2016, 2020).

### LATEST RESEARCH

- Large Language Models (LLMs)
- Data integration
- Data quality
- Misinformation Detection

### VISIBILITY

- Associate editor for the VLDB Journal
- Most Influential Scholar Award Honorable Mention in Database for the third consecutive year (2023)
- Best Paper Award for the paper "Analyzing COVID-related social discourse on Twitter using emotion, sentiment, political bias, stance, veracity and conspiracy theories." (Beyond Facts workshop '23)
- Best Demo Paper Award for "Pythia: Unsupervised Generation of Ambiguous Textual Claims from Relational Data" (SIGMOD '22)
- Distinguished PC Reviewer Award (SIGMOD '21, VLDB '23)
- Google Faculty Research Award (Structured Data, 2020).



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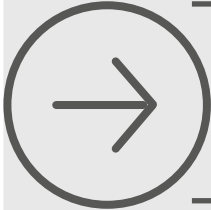
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## DATA SCIENCE DEPARTMENT



FRANCE



RAPHAËL  
TRONCY

ASSISTANT PROFESSOR

JOINED EURECOM IN 2009



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- #Semantic Web Technologies
- #Human-Computer Interaction for the Web Smart City
- #Multimedia Technologies

### BIOGRAPHY

Raphaël Troncy is an assistant professor and Head of the Multimedia Semantics group in the Data Science department with a special interest in semantic data integration, knowledge graphs, semantic web, natural language understanding, information extraction, and recommender systems. He is a sought-after Chair of prestigious international conferences, a program committee member/organizer of hundreds of international workshops, panels, and events. After acquiring B.Sc, M.Sc and Ph.D. degrees in Computer Science at Université Joseph Fourier (Grenoble, France), as well as a Masters from Université de Montréal, he was an ERCIM Fellow at the National Research Council (CNR), Pisa, and a researcher at the National Research Institute for Mathematics and Computer Science in Amsterdam, before joining EURECOM in 2009. He has published over 300 papers to date.

### LATEST RESEARCH

- Semantic Data Integration
- Knowledge Graphs
- Semantic Web
- Natural Language Understanding
- Information Extraction
- Recommender Systems

### VISIBILITY

- W3C Advisory Committee Representative for Institute Telecom/ EURECOM
- Co-chair of the W3C Media Fragments Working Group
- Co-chair of the W3C Incubator Group on Multimedia Semantics
- Editorial Board member of IEEE Special Technical Community on Social Networks
- Journal Reviewer (IEEE, Elsevier, IOS, Springer, ACM)
- Best Paper Award for the paper entitled "Analyzing COVID-related social discourse on Twitter using emotion, sentiment, political bias, stance, veracity and conspiracy theories." (Beyond Facts workshop, 2023)
- 1st prize for accuracy at the SemTab Challenge as member of the DAGOBAN team (ISWC 2022)
- Grand Prix in the category of Innovation and Research for the SILKNOW Project, Horizon 2020 project (2022)
- Best Resources Paper Award for the article "Capturing the semantics of smell: The Odeuropa data model for olfactory heritage information" (ESWC 2022)
- Best System Award at the "SemTab: Semantic Web Challenge on Tabular Data to Knowledge Graph Matching" as member of the DAGOBAN team (2021).



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## DATA SCIENCE DEPARTMENT



COLOMBIA



MARIA A.  
**ZULUAGA**  
ASSISTANT PROFESSOR

JOINED EURECOM IN 2019



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H-index

#Machine Learning

#e-Health

### BIOGRAPHY

Maria A. Zuluaga is an assistant professor in the Data Science department. Her research combines elements of computer vision, machine learning and biomedical imaging with the final aim of developing reliable methods that can be safely used in high-risk domains, such as healthcare. She holds a B.Sc in Electronics Engineering from Universidad del Valle, Colombia; a M.Sc in Computer Science from Universidad de los Andes (Uniandes), Colombia, and a PhD in Signal and Image Processing from Université Claude Bernard Lyon 1 & Uniandes. Prior to joining EURECOM, she led a research team within the AI research department at Amadeus, France, and was a Senior Research Associate at University College London, UK.

### LATEST RESEARCH

- Machine learning
- Computer vision
- Biomedical Image Analysis

### VISIBILITY

- Associate Editor for Medical Image Analysis
- Junior Chair at the 3IA Côte d'Azur (Interdisciplinary Institute for Artificial Intelligence)
- Visiting Senior Lecturer within the School of Biomedical Engineering & Imaging Sciences at King's College London.
- Outstanding Reviewer Award (CVPR 2023)
- Distinguished Gold Level Reviewer from Transactions on Medical Imaging (2022).



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## DIGITAL SECURITY DEPARTMENT



ITALY



DANIELE  
ANTONIOLI

ASSISTANT PROFESSOR

JOINED EURECOM IN 2021



15  
H-index

#Applied systems security

#Privacy

#Cyberphysical systems

### BIOGRAPHY

Daniele Antonioli is an Assistant Professor at EURECOM with the S3 group. He is doing research and teaching in applied system security and privacy with an emphasis on:

- Wireless communication, such as Bluetooth and Wi-Fi,
- Embedded systems, such as cars and fitness trackers,
- Mobile systems, such as smartphones,
- Cyber-physical systems, such as industrial control systems.

His research is currently funded by the European Union (Horizon), the French government (ANR), and several industrial partners, including SAP, NXP, and Siemens. Before joining EURECOM, Daniele spent one year and a half as a Postdoc with Mathias Payer's HexHive group at the École Polytechnique Fédérale de Lausanne (EPFL). During his postdoc, among others, he participated in the design, implementation, and evaluation of DP3T/GAEN, a privacy-preserving contact-tracing technology now used by Google (e.g., Android) and Apple (e.g., iOS) for proximity tracing. Daniele holds a PhD in Computer Science from the Singapore University of Technology and Design (SUTD). His PhD thesis is titled "Design, Implementation, and Evaluation of Secure Cyber-Physical and Wireless Systems". During his PhD he visited and collaborated with Kasper Rasmussen at the University of Oxford Computer Science Department and Nils Ole Tippenhauer at CISPA Helmholtz Center for Information Security. Daniele holds a BS and MS in Electronics and Telecommunications Engineering from the University of Bologna (UniBO). He did his master's thesis titled "Design, implementation, and Evaluation of Random Number Generators (RNG)" with Wayne Burtleson and Vikram Suresh at Umass Amherst (USA).

### LATEST RESEARCH

- Applied system security and privacy
- Wireless systems
- Mobile systems
- Cyber-physical systems
- Embedded systems
- Industrial control systems
- Vehicles

### VISIBILITY

- BreakMi: Reversing, exploiting and fixing Xiaomi (and Fitbit) fitness tracking ecosystems. Presented at IACR CHES 2023 and Hardwear.io USA 2023
- E-Spoof: Attacking and defending Xiaomi electric scooter ecosystem. Presented at ACM WiSec 2023
- BLURtooth: Exploiting cross-transport key derivation in Bluetooth classic and Bluetooth low energy. Presented at AsiaCCS 2022
- BIAS: Bluetooth Impersonation Attacks. Presented at IEEE S&P (Oakland) 2020



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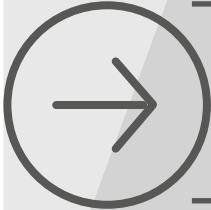


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## DIGITAL SECURITY DEPARTMENT



ITALY

**SIMONE  
AONZO**

ASSISTANT PROFESSOR

JOINED EURECOM IN 2022



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#Applied System security

#Privacy Cyber-physical systems

**BIOGRAPHY**

Professor Simone Aonzo studied computer science at the University of Genoa and graduated in 2015, specialising in the Android operating system with a focus on assistance security. After his studies, he worked at Talosec, an Italian startup security company, on penetration testing and malware analysis in the Android banking app ecosystem. In addition to his main work at Talosec, he was entrusted with training on malware analysis for other companies, a valuable part of his working experience. Also, during his experience in the industry, he enjoyed the practical mindset targeting applied research contributions. After two years in the industrial sector, he started his Ph.D. in Computer Science and Systems Engineering in 2017 at the University of Genoa. The title of his thesis was "Novel attacks and defenses in the Userland of Android." In 2020, he was hired by EURECOM as a Postdoctoral Researcher under the supervision of Professor Davide Balzarotti. In April 2022, he was promoted to Assistant Professor in the Digital Security Department. Since then, his research has highlighted systemic flaws in Android and developed program analysis techniques to analyze malicious software.

**LATEST RESEARCH**

- Mobile (Android) system security
- Malware Analysis (Android and Windows)
- Humans in the Cybersecurity Loop
- Phishing

**VISIBILITY**

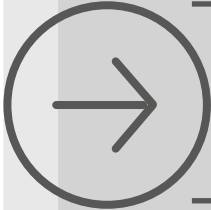
- Aonzo S., et. al, Humans vs. machines in malware classification USENIX 2023, 32nd Usenix Security Symposium, 9-11 August 2023, Anaheim, CA, USA
- Keynote Speech, An overview of modern Windows malware analysis: Where we are and where we are going, WORMA 2023, Keynote Speech, 2nd Workshop on Robust Malware Analysis, July 2023, Delft, The Netherlands
- Android, notify me when it is time to go phishing, Ruggia, Antonio et al., EUROS&P 2023, 8th IEEE European Symposium on Security and Privacy, 3-7 July 2023, Delft, Netherlands
- Program committee member of international conferences.

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## DIGITAL SECURITY DEPARTMENT



ITALY



DAVIDE  
**BALZAROTTI**

PROFESSOR, DEPARTMENT HEAD

JOINED EURECOM IN 2009

**#Software Development  
Methodologies**

**#Cybercrime and  
Computer Forensics**



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### BIOGRAPHY

Davide Balzarotti is a professor and head of the Digital Security Department with a special interest in system security, and in particular, the areas of binary and malware analysis, reverse engineering, computer forensics, and web security. He earned his Ph.D. in Computer Engineering from Politecnico di Milano in 2006 and was a postdoctoral researcher in computer security at the University of California, Santa Barbara (2006 – 2008).

He has published over 100 papers to date.

### LATEST RESEARCH

- Reverse Engineering
- Memory Forensics
- Advanced malware analysis
- Web security
- Fuzzing

### VISIBILITY

- ERC Consolidator Grant for his project BITCRUMPS (2018-2023)
- Program Chair of Usenix Security 2024
- Best Paper Award for the paper “When Malware Changed Its Mind: An Empirical Study of Variable Program Behaviors in the real World.” (CSAW 2021)
- Best Paper Award for the article “Attacks landscape in the dark side of the web” (SAC 2017)
- Program committee member of numerous international conferences
- Chaired RAID 2012 and EUROSEC 2014



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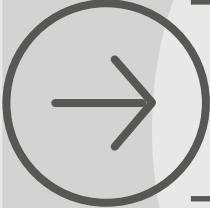
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## DIGITAL SECURITY DEPARTMENT



FRANCE



ROMAIN  
CAYRE

ASSISTANT PROFESSOR

JOINED EURECOM IN 2022



**#wirelessecurity**  
**#embeddedsecurity**  
**#internetofthings #protocols**  
**#fuzzing #in-trusiondetection**  
**#lowlevelsoftware**

### BIOGRAPHY

Romain Cayre received his M.S. in Computer Science and Networks Engineering and his Ph.D. in Computer Science from INSA Toulouse.

Romain is an Assistant Professor in the Digital Security Department at EURECOM. In his work, Romain focuses on embedded systems security and wireless security, with a focus on Internet of Things. Romain is particularly interested in the analysis of protocol stacks, cross-layer interactions and lower layers (medium access and physical layers), and the new security threats linked to emerging wireless protocols.

In the past, Romain worked on various research topics, including: intrusion detection & prevention, fingerprinting and low level attacks.

### LATEST RESEARCH

- Low level wireless attacks
- Intrusion Detection
- Fingerprinting

### VISIBILITY

- Accessit of the Prix de Thèse du GDR Cybersécurité
- Romain Cayre, Vincent Nicomette, Guillaume Auriol, Mohamed Kaâniche, and Aurélien Francillon. "OASIS: An Intrusion Detection System Embedded in Bluetooth Low Energy Controllers". In: 2024 ACM Asia conference on Computer and Communications Security (ASIACCS). Singapore, Singapore, July 2024.
- Romain Cayre, Damien Cauquil, and Aurélien Francillon. "ESPwn32: hacking with ESP32 systemonchips". In: WOOT 2023, 17th IEEE Workshop on Offensive Technologies, colocated with IEEE S&P 2023, 25 May 2023, San Francis-co, United States. Ed. by IEEE. San Francisco, 2023
- Romain Cayre, Florent Galtier, Guillaume Auriol, Vincent Nicomette, Mohamed Kaâniche, and Géraldine Marconato. "InjectaBLE: Injecting malicious traffic in-to established Bluetooth Low Energy connections". In: IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2021). Taipei (virtu-al), Taiwan, June 2021.
- Romain Cayre, Florent Galtier, Guillaume Auriol, Vincent Nicomette, Mohamed Kaâniche, and Géraldine Marconato. "WazaBee: attacking Zigbee networks by diverting Bluetooth Low Energy chips". In: IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2021). Taipei (virtual), Taiwan, June 2021.
- Keynote: Ten years of studies on the security of connected objects: a wrapup (with Vincent Nicomette, LAAS-CNRS) - 14th Computer & Electronics Security Application Rendezvous 2023 (C&ESAR 2023)



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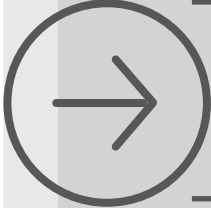


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## DIGITAL SECURITY DEPARTMENT



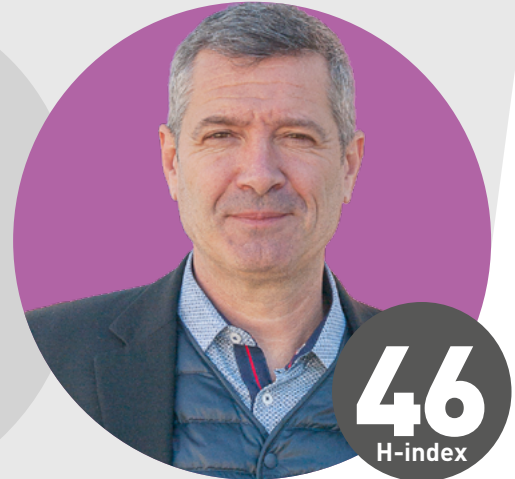
FRANCE



JEAN-LUC  
DUGELAY

PROFESSOR

JOINED EURECOM IN 1993



**#Imaging for Security Applications  
Watermarking & Biometrics**

**#Image & Video Compression  
and Processing**

### BIOGRAPHY

Jean-Luc Dugelay is a professor in the Digital Security Department with a special interest in multimedia image processing, in particular activities in security (image forensics, biometrics and video surveillance, mini drones), and facial image processing.

He obtained his PhD in Information Technology from the University of Rennes in 1992 and worked for France Telecom Research prior to joining EURECOM.

A prolific author and sought-after conference speaker, he has positioned himself as one of the leading international experts in the field of multimedia security and has published over 380 papers as well as numerous books and articles.

### LATEST RESEARCH

- Unmanned aerial vehicles
- Facial Image Analysis
- Biometrics and Video surveillance
- Image Forensics
- Deepfake

### VISIBILITY

- Participates in on-going projects, CONVERGE (EU HORIZON 2023-2026), HEIMDALL (BPI/i-DEMO 2023-2026), DeTOX (ANR ASTRID Guerre Cognitive 2023-2026), XAlface (CHISTERA 2022-2024)
- Fellow member of IEEE and IAPR
- Elected member of the EURASIP BoG and Associate editor of several international journals (IEEE Trans. on IP, IEEE Trans. on MM)
- Founding Editor-in-Chief of the EURASIP journal on Image and Video Processing (SpringerOpen)
- ITEA Award of Excellence in the categories "Business impact" & "Innovation" (July 2018)
- "Fellow" IAPR (International Association for Pattern Recognition) (2018)
- Best Paper Award and 1st Place Award for the paper "Apparent Age Estimation from Face Images Combining General and Children Specialized Deep Learning Models" (CVPRW 2016)



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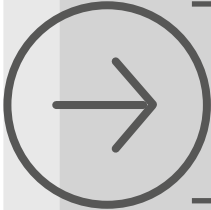


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## DIGITAL SECURITY DEPARTMENT



ENGLAND



NICHOLAS  
EVANS

PROFESSOR

JOINED EURECOM IN 2007



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H-index

**#Audio Security  
and Privacy**

### BIOGRAPHY

Nicholas Evans is a professor in the Digital Security department. His research interests include deepfake detection, spoofing or presentation attack detection, speaker anonymisation or de-identification, privacy preservation, automatic speaker verification, and biometrics. He is a co-founder and co-organiser of the community led ASVspooF and SASV challenges in deepfake and spoofing detection for automatic speaker verification (since 2013) and of the VoicePrivacy challenge series in speaker anonymisation (since 2020). He received his M.Eng (Hons) in Electronics and Computing Science (1999) and Ph.D. in Electrical and Electronic Engineering (2004) from the University of Wales Swansea (UWS). He was appointed Assistant Professor at UWS in 2002 and remained an Honorary Lecturer at UWS until 2009. In 2006 he joined the Laboratoire Informatique d'Avignon at the Université d'Avignon, before joining EURECOM in 2007. He obtained the Habilitation à Diriger des Recherches (HDR – accreditation to supervise research) diploma from the University of Nice and Sophia Antipolis in 2015.

### LATEST RESEARCH

- Deepfake detection
- Spoofing or presentation attack detection
- Speaker anonymisation or de-identification
- Privacy preservation
- Automatic speaker verification
- Biometrics

### VISIBILITY

- Co-founder and co-organiser of the ASVspooF, SASV and VoicePrivacy initiatives and challenge series
- Co-editor of the Handbook of Biometric anti-spoofing: Presentation attack detection, 2nd edition (2018) and 3rd edition (2023)
- Co-editor of the Privacy and Security Matters in Biometric Technologies Handbook – results from the PriMa and TReSPAsS-ETN H2020 Marie Curie ETN projects, 2024
- Advisory Committee, International Speech Communication Association, Special Interest Group in Security and Privacy in Speech Communication (SPSC)
- Associate Editor of the IEEE Transactions on Biometrics, Identity and Behavior (T-BIOM) since 2018
- Best paper award, IberSPEECH 2022, "On The Potential of Jointly-Optimised Solutions to Spoofing Attack Detection and Automatic Speaker Verification", with Wanying Ge, Hmlata Tak and Massimiliano Todisco



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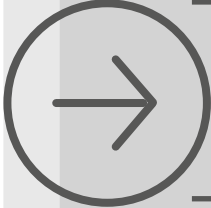


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## DIGITAL SECURITY DEPARTMENT



ITALY



ANTONIO  
FAONIO

ASSISTANT PROFESSOR

JOINED EURECOM IN 2020



12  
H-index

#Cryptography

### BIOGRAPHY

Antonio Faonio is an assistant professor in the Digital Security Department with special interest in Cryptography. Previously, Antonio Faonio was a postdoctoral researcher at IMDEA Software Institute, Madrid, from 2017 to 2020 in the research group of prof. Dario Fiore, and postdoctoral researcher at Aarhus University, Aarhus from 2015 to 2016 in the research group of Ivan Damgaard.

Antonio Faonio received his Ph.D. in Computer Science at "Sapienza" Univ. of Rome. His advisor was prof. Giuseppe Ateniese.

### LATEST RESEARCH

- Non-Malleable Secret Sharing Schemes
- Non-Malleable Zero-Knowledge Proofs Systems and zkSNARKs
- Pairing-Based Cryptography

### VISIBILITY

- Faonio, A., Hofheinz, D., Russo, L. (2023). Almost Tightly-Secure Rerandomizable and Replayable CCA-Secure Public Key Encryption. In: Boldyreva, A., Kolesnikov, V. (eds) Public-Key Cryptography – PKC 2023. PKC 2023. Lecture Notes in Computer Science, vol 13941. Springer, Cham. [https://doi.org/10.1007/978-3-031-31371-4\\_10](https://doi.org/10.1007/978-3-031-31371-4_10)
- G. Brian, A. Faonio et al., "The Mother of All Leakages: How to Simulate Noisy Leak-ages via Bounded Leakage (Almost) for Free," in IEEE Transactions on Information Theory, vol. 68, no. 12, pp. 8197-8227, Dec. 2022, doi: 10.1109/TIT.2022.3193848.



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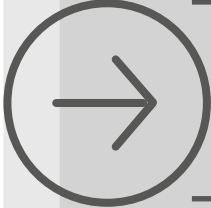


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## DIGITAL SECURITY DEPARTMENT



FRANCE



AURÉLIEN  
FRANCILLON

PROFESSOR

JOINED EURECOM IN 2011



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H-index

- #Embedded systems security
- #Architecture support for security
- #Wireless and wired network security and privacy

### BIOGRAPHY

Aurélien Francillon is a professor in the Digital Security department with a special interest in topics such as software security, architecture support for security, wireless and wired network security and privacy to ensure the security of embedded devices from low-end micro-controllers to high-end smartphones. He is especially interested in the boundaries between software and hardware, a frequently neglected area of security. He earned his Ph.D. in Computer Science from INRIA/INP Grenoble (2009) and subsequently worked as a postdoctoral researcher in computer security at the Federal Institute of Technology Zurich (ETH Zurich, Switzerland).

Prior to his PhD, he was working as an expert engineer at INRIA in cooperation with ST Microelectronics. He has published over 70 papers to date.

### LATEST RESEARCH

- Embedded systems security
- Architecture support for security
- Wireless and wired network security and privacy

### VISIBILITY

- Distinguished Paper Award for the paper "Symbolic execution with SYMCC: Don't interpret, compile!" (USENIX 2020)
- 2019 Google Faculty Research Awards, Category Security
- Third prize at the CSAW Europe applied research competition 2018 for "Screaming Channels"
- Best Paper Award for the article: "C5: Cross-cores cache covert channel" (DIMVA 2015)
- Best Student Award for the article "Implementation and implications of a stealth hard-drive backdoor" (ACSAC 2013)
- Involved in cooperative research with many companies through publicly funded projects (NEC, NXP, SAP, etc.) or direct partnerships (Google, Siemens, ...)
- Frequent author of publications and PC member in top venues (Usenix Security, IEEE S&P, ACM CCS, NDSS, etc.)
- Co-chaired the CARDIS conference, ACM WiSec and WOOT Workshop.
- Steering committee chair of Usenix WOOT Conference on Offensive Security.



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## DIGITAL SECURITY DEPARTMENT



ITALY



CHIARA  
GALDI

ASSISTANT PROFESSOR

JOINED EURECOM IN 2023



14  
H-index

#Biometrics

#AI

#Signal and Image Processing

### BIOGRAPHY

Chiara Galdi is an assistant professor in the Digital Security Department with a special interest in multibiometric systems, image forensics, and security and fairness of AI-based systems.

She holds a B.Sc and a M.Sc in Computer Science from the University of Salerno, Italy. In 2016 she obtained a double title from the University of Salerno and EURECOM for her joint-supervision Ph.D. on "Design and development of multi-biometric systems". During her doctoral studies, she focused on ocular biometrics and their fusion into multimodal systems. She is currently interested in the problem of explainability of biometric systems and the measurement and mitigation of bias in artificial intelligence-based systems. She has received prestigious awards and actively contributes to conferences, workshops, and project proposals, also serving as a reviewer and guest editor in her field.

### LATEST RESEARCH

- Bias measuring and mitigation in biometric systems
- Face recognition explainability
- Biometric recognition on mobile devices
- Multi-biometric and multi-modal authentication
- Source digital camera identification

### VISIBILITY

- Member of the IEEE Information Forensics and Security Technical Committee.
- European Biometrics Industry Award for her work titled "Combining Iris and Sensor Recognition on Mobile Phones", assigned by the EAB - European Association for Biometrics, in September 2016
- Ph.D. Thesis Award 2015-2016 assigned by the IEEE Italy Section Biometrics Council Chapter.



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DIGITAL SECURITY DEPARTMENT



TURKEY-FRANCE



MELEK  
ÖNEN

ASSOCIATE PROFESSOR

JOINED EURECOM IN 2005



23  
H-index

#Applied cryptography  
and privacy-enhancing technologies

BIOGRAPHY

Melek Önen is an associate professor in the Digital Security. Her research interests are applied cryptography, information security and privacy. She has worked in the design and the development of cryptographic protocols for various technologies including the cloud and the IoT. She holds a PhD in Computer Science from Ecole Nationale Supérieure des Télécommunications de Paris (ENST, 2005) and obtained her “Habilitation à Diriger les Recherches” in 2017. She was/is involved in many European and national French research projects. Currently, she is the coordinator of the French-German UPCARE for which, together with her research team, she develops privacy-preserving and trustworthy primitives for the artificial intelligence technology. She also holds a “chaire” on privacy-preserving machine learning from the national 3IA program.

LATEST RESEARCH

- Applied cryptography
- Cloud security
- Trustworthy and privacy-preserving machine learning

VISIBILITY

- Coordinates the French-German UPCARE project (User-Centric privacy-preserving healthcare platform)
- Principal Investigator for the French-German TRAIN project (Trustworthy AI), PROPOLIS (privacy-preserving smart cities) and ANR project TRUST (Trustworthy data re-use)
- Since 2019, she also holds a 3IA “chaire” on the topic of privacy-preserving machine learning.



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## DIGITAL SECURITY DEPARTMENT



ITALY



MASSIMILIANO  
TODISCO

ASSOCIATE PROFESSOR

JOINED EURECOM IN 2015



#AI for Audio, Music, Voice Biometrics

### BIOGRAPHY

Massimiliano Todisco is an assistant professor in the Department of Digital Security, with a special interest in deepfakes detection and privacy preservation within biometrics. His academic endeavors delve into the application of artificial intelligence to signal processing, advancing adversarial learning, and probing into generative models alongside AI explainability.

With Master's degrees in Physics and Sound Engineering, *summa cum laude*, Massimiliano earned a Ph.D. in Sensorial and Learning Systems Engineering from Tor Vergata University of Rome. Massimiliano joined EURECOM in 2015, initially holding a postdoctoral research position for four years before advancing to a professorial role. To date, he has authored over 150 publications.

### LATEST RESEARCH

- Privacy enhancing technologies for biometrics;
- Deepfake detection and anti-spoofing systems;
- Brain-inspired machine learning;
- Generative AI models for music and speech.

### VISIBILITY

- Pioneer in developing an advanced anti-spoofing models recognized with the Best Paper Award at Odyssey 2016 and celebrated as the standout paper in 'Computer Speech and Language' journal during the years 2015 to 2019.
- Co-organizer of various challenges and collaborative efforts including the ASVspooF (<https://www.asvspoof.org/>) and the VoicePrivacy (<https://www.voiceprivacychallenge.org/>) challenges, promoting research and advancements in privacy and security for voice biometrics.
- Awarded Best Paper for the paper "On the Potential of Jointly-Optimised Solutions to Spoofing Attack Detection and Automatic Speaker Verification" at IberSPEECH 2022
- Associate editor for the Springer book 'Privacy and Security Matters in Biometric Technologies'
- Program Chair of the International Conference of the Biometrics Special Interest Group (BIOSIG).



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