

Nadjib Achir

Curriculum Vitæ

Contents

1 Professional History	1
1.1 Current Position	1
1.2 Professional Experience	1
1.3 Degrees	2
2 Research Activities	2
2.1 Research Areas	2
2.2 Supervision	2
2.3 Scientific Outreach and Dissemination	6
2.4 Research Projects and Scientific Responsibilities (since 2020)	9
2.5 Collaborations	10
3 Publications	11

1 Professional History

1.1 Current Position

Position and Status : Inria Researcher (CRHC) – HDR.

Institution : Inria Saclay, TRiBE team.

Email : nadjib.achir@inria.fr

1.2 Professional Experience

Start date	End date	Institution	Position and status
<i>Start</i>	<i>End</i>	<i>Institution</i>	<i>Position and status</i>
01/09/2024	-	TRiBE – Inria Saclay	Inria Researcher (CRHC) – HDR
01/01/2022	31/08/2024	TRiBE – Inria Saclay	Researcher (Faculty Member)
01/09/2004	31/08/2024	Sorbonne Paris Nord University	Associate Professor, Senior – HDR
01/09/2019	31/08/2021	TRiBE – Inria Saclay	Inria secondment/Visiting Associate Professor
01/09/2011	31/08/2013	Hipercom2 – Inria Rocquencourt	Inria secondment/Visiting Associate Professor

1.3 Degrees

Date	Institution	Degree
<i>Date</i>	<i>Institution</i>	<i>Diploma</i>
February 2014	Sorbonne Paris Nord University (formerly University Paris 13)	Habilitation to Direct Research (HDR)
October 2003	Pierre and Marie Curie University	Ph.D. in Computer Science, Telecommunications and Electronics
September 1999	University of Versailles Saint-Quentin-en-Yvelines	Diplôme d'Études Approfondies (DEA, pre-doctoral research master's)

2 Research Activities

2.1 Research Areas

My research mainly focuses on distributed systems and wireless networks, with a strong emphasis on modeling, algorithms, and experimental validation. My recent work is structured around three complementary directions:

- **Mobility data collection and analysis:** especially through measurements enabled by wireless networks, with a focus on privacy-preserving methodologies.
- **Edge resource allocation and computation offloading:** to support ultra-responsive applications under strong latency and compute constraints.
- **Edge AI:** bringing modern machine learning to constrained IoT systems through split computing, split inference, and dynamic offloading to nearby edge or cloud resources.

2.2 Supervision

I have carried out ongoing supervision activity throughout my career. I have directed/co-directed/co-supervised 3 postdoc, 4 research engineers, 15 completed PhD theses and 19 research internships. I am currently co-directing 3 PhD theses.

Postdoctoral and research engineer supervision:

1. **Zheng Zhou** [01/06/2026 – 31/05/2028] (Postdoctoral researcher). Supervision : Co-supervision at 50% in collaboration with Aline C. Viana (Inria Research Director). Funding source : La Poste collaboration research project.
2. **Judy Carolina Guevara Amaya** [01/02/2026 – 31/01/2028] (Postdoctoral researcher) : Supervision : Co-supervision at 50% in collaboration with Aline C. Viana (Inria Research Director). Funding source : PEPR N&F NAI and PEPR MOBIDEC.
3. **Abdelmounaim Bouroudi** [01/06/2025 – 31/05/2027] (Postdoctoral researcher). Supervision : Co-supervision at 33% in collaboration with Aline C. Viana (Inria Research Director) and Nathalie Mitton (Inria Research Director). Funding source : PEPR MOBIDEC. Publications : [119],
4. **Wellington Lobato** [01/12/2024 – 31/07/2026] (Postdoctoral researcher). Supervision : Co-supervision at 50% in collaboration with Aline C. Viana (Inria Research Director). Funding source : PEPR N&F NAI. Publications : [122],
5. **Fernando Molano Ortiz** [01/10/2022 – 30/09/2023 and 01/10/2025 –] (Research Engineer) : Supervision : Co-supervision at 50% in collaboration with Aline C. Viana (Inria Research Director). Funding source : ANR Mitik project and PEPR MOBIDEC. Publications : [27], [128]

6. **Pedro Cruz Caminha** [01/11/2020 – 30/11/2021] (Research Engineer). *Supervision* : Co-supervision at 50% in collaboration with Aline C. Viana (Inria Research Director). *Funding source* : Inria Development and Transfer Action (ADT). *Publications* : [127], [3]
7. **Michele Garraffa** [01/06/2017 – 01/02/2018] (postdoctoral researcher) : “Path planning with multiple Unmanned Aerial Vehicles (UAVs)”. *Supervision* : Co-supervision at 50% in collaboration with Lucas Létocart (Associate Professor, LIPN, Sorbonne Paris Nord University). *Funding source* : Funding from the MathStic FR 3734 research federation. *Publications* : [46], [53]

PhD supervision

1. **Ouedraogo Wendlasida** [01/09/2024 → –] : “Toward Channel-Charting-Based Handover in Heterogeneous Networks”. *Supervision* : Co-direction at 25% in collaboration with Andrea ARALDO (TSP-IPP), Lucas BREHON-GRATALOUP (TSP-IPP), Antoine LAVIGNOTTE (TSP-IPP).
2. **Amira Dhaouadi** [01/01/2024 → –] : “Distributing learning models along the IoT-edge-cloud continuum”. *Supervision* : Co-direction at 50% in collaboration with Cédric Adjih (Inria). *Funding source* : PEPR NF-FITNESS. *Publications* : [120], [23], [25].
3. **Lucas Castro De Souza** [01/11/2023 → –] : “Federated-Learning-Based Anomaly Detection for Vehicular Networks”. *Supervision* : Co-direction at 30% with Prof. Luis Henrique Maciel Kosmowski Costa and Prof. Miguel Elias Mitre Campista (Federal University of Rio de Janeiro). *Funding source* : STIC-AmSud LINT project. *Publications* : [123], [125], [126], [30], [129].
4. **Rosario Patane** [01/12/2021 → 2025] : “How can Vehicles increase Cloud intelligence?”. *Supervision* : Co-direction at 60% in collaboration with Andrea Araldo (Télécom SudParis - SAMOVAR) and Lila Boukhatem (LISN Univ. Paris Saclay). *Funding source* : 2021 DigiCosme PhD thesis project. *Publications* : [1], [138], [29].
5. **Abhishek Kumar Mishra** [01/08/2020 → 19/10/2023] : “Revealing and exploiting privacy vulnerabilities in users’ public wireless packets”. *Supervision* : Co-direction at 60% in collaboration with Aline Carneiro Viana (Inria Research Director). *Funding source* : ANR Mitik project. *Publications* : [32], [33], [35], [140], [38].
6. **Faiz Sanaullah** [19/11/2018 → 28/09/2022] : “Data gathering and dissemination for autonomous vehicular networks”. *Supervision* : Co-direction at 50% in collaboration with Khaled Boussetta (Associate Professor, L2TI, Sorbonne Paris Nord University). *Funding source* : Pakistani government PhD scholarship. *Publications* : [36], [110].
7. **Lê Hoàn** [06/03/2017 → 22/04/2021] : “Fog Computing: Service Architectures for Data Management and Energy-efficiency”. *Supervision* : Co-direction at 50% in collaboration with Khaled Boussetta (Associate Professor, L2TI, Paris 13 University). *Funding source* : Vietnamese government PhD scholarship. *Publications* : [40], [41], [44].
8. **Célia Yasmine Tazibt** [10/10/2017 → 15/12/2021] : “Data collection using drone networks”. *Supervision* : Joint-supervision (co-tutelle) thesis. Co-direction at 50% in collaboration with Tounsia Djamah (Laboratoire de Recherche en Informatique, LARI, Mouloud Mammeri University, Tizi-Ouzou, Algeria). *Funding source* : Algerian government joint-supervision PhD scholarship. *Publications* : [4], [51], [57].
9. **Amal KAMMOUN** [06/04/2017 → 19/12/2019] : “Dynamic Deployment of Virtual Networks in Heterogeneous Networks”. *Supervision* : Joint-supervision (co-tutelle) thesis. Co-supervision at 25% in collaboration with Gladys Diaz Salsa (Associate Professor, L2TI, Paris 13 University) and Nabil Tabbane (Supcom, Tunisia). *Funding source* : Tunisian government joint-supervision PhD scholarship. *Publications* : [42], [111], [43], [48], [49].

10. **Houssemeddine MAZOUZI** [15/09/2016 → 22/11/2019] : “Algorithms for task offloading on Edge servers”. *Supervision* : Co-direction at 50% in collaboration with Khaled Boussetta (Associate Professor, L2TI, Paris 13 University). *Funding source* : Doctoral contract, Paris 13 University. *Publications* : [5], [45], [6], [50].
11. **Mustapha BEKHTI** [28/10/2014 → 20/01/2018] : “Target tracking in a wireless flying sensor network”. *Supervision* : Thesis direction and co-supervision at 50% with Khaled Boussetta (Associate Professor, L2TI, Paris 13 University). *Funding source* : Algerian government PhD scholarship. *Publications* : [46], [52], [7], [53], [57], [60], [61].
12. **Abdelhak FARSI** [01/12/2007 → 11/12/2012] “Toward a rapidly deployable communication infrastructure based on wireless mesh networks”. *Supervision* : Co-supervision at 45% in collaboration with two permanent members of L2TI (Ken Chen at 10% ; Khaled Boussetta at 45%). *Funding source* : Île-de-France region PhD scholarship. *Publications* : [8], [71], [72], [73], [113], [84].
13. **Arnaud Kaiser** [01/12/2007 → 05/12/2012] : “Multiplayer video games over Ad-Hoc networks”. *Supervision* : Co-supervision at 45% in collaboration with two permanent members of L2TI (Ken Chen at 10% ; Khaled Boussetta at 45%). *Funding source* : ANR MADGAMES project. *Publications* : [9], [74], [77], [80], [112], [82], [85], [86].
14. **Nadjib Aitsaadi** [01/09/2006 → 11/03/2010] : “ Multi-Objective Wireless Sensor Network Deployment”. *Supervision* : Co-supervision at 70% in collaboration with a permanent member of LIP6 – Laboratoire de Paris 6 (Guy Pujolle at 30%). *Funding source* : LIP6 project PhD scholarship. *Publications* : [10], [78], [12], [83], [87], [88], [89], [92].
15. **Salim Benayoune** [01/10/2004 → 22/06/2009] : “ Adaptation and error control mechanisms for H.264/AVC video stream transmission over UMTS/HSDPA networks”. *Supervision* : Co-supervision at 25% in collaboration with two permanent members of L2TI (Ken Chen at 50% ; Khaled Boussetta at 25%). *Funding source* : Doctoral contract, Paris 13 University. *Publications* : [79], [13], [90], [93].

Research internship supervision

1. **João Paulo Esper**, “Impact of User Privacy and Mobility on Edge Offloading”. Co-supervision in collaboration with Kleber Vieira Cardoso (UFG) and Jussara M. Almeida (UFMG). *Publications* : [31], [139]
2. **Fernando Dias de Mello Silva** (February 2022 – July 2022), “Performance Analysis of a Privacy-Preserving Frame Sniffer on a Raspberry Pi”, Co-supervision in collaboration with Aline C. Viana and Luis Henrique M. K. Costa (UFRJ) and Anne Fladenmuller (Sorbonne University). *Publications* : [35]
3. **Wassim Seifeddine** (March 2021 – August 2021) : Co-supervision at 50% in collaboration with Cédric Adjih (TRiBE, Inria). Mr. Wassim’s internship work focused on the offloading of neural-network-based learning models between the end device, the Edge and the Cloud. [39]
4. **Marcos Felipe Barboza De Abreu** (April 2021 – September 2021) : Co-supervision at 50% in collaboration with Aline Viana (TRiBE, Inria). Mr. Marcos’s internship work focused on proposing a MAC address randomization mechanism for mobile devices during “passive” WiFi trace collection.
5. **Jiangnan Yang** (March 2016 – August 2016) : Co-supervision at 50% in collaboration with Paul Muhlethaler (INRIA). Mr. Yang’s internship work focused on adaptive control of the *carrier sense threshold* for vehicular networks.
6. **Tewouda Kevin** (March 2015 – August 2015) : Co-supervision at 50% in collaboration with Paul Muhlethaler (INRIA). Mr. Tewouda’s internship work focused on adaptive control of the *carrier sense threshold* for vehicular networks.
7. **Ahmed Amari** (April 2013 – August 2013) : Co-supervision at 50% in collaboration with Paul Muhlethaler (INRIA). Mr. Amari’s internship work focused on optimized *broadcast* in wireless sensor networks.

8. **Asma Belhaoua** (April 2013 – August 2013) : Co-supervision at 50% in collaboration with Paul Muhlethaler (INRIA). Ms. Belhaoua's internship work focused on opportunistic data dissemination in urban networks.
9. **Aubin Amrhein** (April 2011 – September 2011) : Co-supervision at 50% in collaboration with another permanent member of L2TI (Khaled Boussetta at 50%). Mr. Amrhein's internship work focused on sink deployment in wireless sensor networks.
10. **Hassene Miladi** (May 2011 – September 2011) : Co-supervision at 50% in collaboration with another permanent member of L2TI (Khaled Boussetta at 50%). Mr. Miladi's internship work focused on the dimensioning of LTE wireless networks.
11. **Nabil Hatimi** (March 2010 – August 2010) (ERASMUS) : Co-supervision at 50% in collaboration with another permanent member of L2TI (Khaled Boussetta at 50%). Mr. Hatimi's internship work focused on supporting video games over ad hoc networks.
12. **Abdelhak Farsi** (April 2007 – September 2007) : Co-supervision at 50% in collaboration with another permanent member of L2TI (Khaled Boussetta at 50%). Mr. Farsi's internship work focused on the dimensioning of wireless networks for individualized audio stream broadcasting.
13. **Ahmad Sardouk** (February 2007 – July 2007) : This co-supervision resulted from a collaboration between L2TI (Khaled Boussetta at 30%, myself at 30%) and FT R&D (Sidi-Mohammed Senouci, Research Officer, at 40%). Mr. Sardouk's internship work was part of the ANR-RIAM MAD GAMES project and continued work previously started with FT R&D. Mr. Sardouk's internship topic was "Optimal broadcast routing algorithm for video games over Ad Hoc networks".
14. **Pierre Checa** (February 2006 – July 2006) : This co-supervision resulted from a collaboration between L2TI (Boussetta Khaled at 40%, myself at 40%) and FT R&D (Sidi-Mohammed Senouci, Research Officer, at 20%). Mr. Checa's internship work focused on the performance evaluation of multiplayer video games over Ad Hoc networks.
15. **Sondes Khemiri** (April 2006 – September 2006) : Co-supervision at 40% in collaboration with a permanent member of L2TI (Khaled Boussetta at 40%) and a permanent member of LIP6 – Laboratoire de Paris 6 (Guy Pujolle at 20%). Ms. Khemiri's internship work focused on the study and performance evaluation of the IEEE 802.16 wireless technology.
16. **Nadjib Aitsaadi** (April 2006 – September 2006) : This is a co-supervision at 40% in collaboration with a permanent member of L2TI (Khaled Boussetta at 40%) and a permanent member of LIP6 – Laboratoire de Paris 6 (Guy Pujolle at 20%). Mr. Aitsaadi's internship work focused on dimensioning for the deployment of a sensor network.
17. **Ismaila Sy** (April 2005 – September 2005) : This is a co-supervision at 50% in collaboration with another permanent member of L2TI (Gladys DIAZ at 50%). Mr. SY's work focused on proposing an information model for the composition of dynamic network services.
18. **Adel Grir** (April 2005 – September 2005) : This is a co-supervision at 50% in collaboration with another permanent member of L2TI (Gladys DIAZ at 50%). Mr. Grir's work focused on proposing an information model for the dynamic deployment of new network services.
19. **Thierry Marinier** (March 2004 – August 2004) : This is a 100% supervision. Mr. Marinier's work focused on self-configuration in sensor networks.

Other

1. Sahaj Shandilya, "Attacks on Federated Learning", co-supervision at 50% in collaboration with Aline Carneiro Viana, from June 2023 to July 2023.

2.3 Scientific Outreach and Dissemination

Awards

- **Best paper award** : IEEE CCNC 2008.
- **Articles selected for accelerated publication in a journal** : ACM MSWiM 2018 → Elsevier Computer Communications Journal, 2019.

PhD Committee Participation

- Reviewer / external examiner (17 theses)
 1. **Fouzi Boukhalfa**, *Low Latency Radio And Visible Light Communications for Autonomous Driving*, Sorbonne University, September 2021.
 2. **Giacomo Quadrio**, *Delivery of High Quality and Interactive Multimedia Contents over the Internet*, University of Padova, January 2021.
 3. **Sarra Mehamel**, *New intelligent caching and mobility strategies for MEC /ICN based architectures*, CNAM, November 2020.
 4. **Dorin Marian Rautu**, *Temporary deployment of a drone-based communication infrastructure*, University of Toulouse, 1 October 2019.
 5. **Jonathan Munoz Mauricio Soto**, *km-scale Industrial Networking*, INRIA EVA, Pierre and Marie Curie University, March 2019.
 6. **Tarek RABIA**, "Virtualization of Cloud Radio Access Network (C-RAN) Functions", Pierre and Marie Curie University, January 2018.
 7. **Mohamed ALI MOUSSA**, "Data Gathering and Anomaly detection in Wireless Sensor Networks", University Paris-Est, November 2017.
 8. **Alexandre LAUBE**, "Traffic aggregation to reduce overall energy consumption in multi-hop wireless networks", University Paris-Saclay, September 2017
 9. **Romain SOROKIN**, "Video Conference bases on Entreprise Desktop Grid", Telecom ParisTech, 24 February 2017.
 10. **Alexandre RAGALEUX**, "Multiple Access Mechanisms in Broadband Wireless Networks", Pierre and Marie Curie University, 22 September 2016.
 11. **EL Hadji Malick NDOYE**, "Linear wireless sensor networks: Impact of connectivity and interference on a token-ring-based access method", Blaise Pascal University, Clermont-Ferrand, 21 December 2015.
 12. **Oussama STITI**, "Study of the Urbanization of Virtual Accesses and Network Metamorphosis Strategy", Pierre and Marie Curie University, 15 December 2015.
 13. **Ines KHOUFI**, "Autonomous or Assisted Deployment by Mobile Robots of Wireless Sensor Networks: Coverage and Connectivity Issues", INRIA, 30 September 2015.
 14. **Mario Antonio ZANCANARO**, "Identification of mobile RFID elements in indoor environments combining the application and physical layers", Paris 6 University, 26 January 2015.
 15. **Inés BEN JEMAA**, "Multicast communications for cooperative vehicular systems", MINES ParisTech, 17 December 2014.
 16. **Ibtissem Boulanouar**, "Mobile target tracking algorithms for wireless sensor networks", University Paris EST, 24 June 2014.
 17. **Rima Hatoum**, "Cross-layer scheduling algorithms with modulation and coding adaptation in a heterogeneous network", Paris 6 University, 26 June 2014.
- Examiner (8 theses)
 1. **Sehla Khabaz**, "Radio Resource Allocation in C-V2X: From LTE-V2X to 5G-V2X", Sorbonne University, November 2022.
 2. **David Cordova**, "Blockchain Application for Mesh and Mobile Ad Hoc Networks", Sorbonne University, November 2022.

3. **Ridha Soua**, “*Wireless Sensor Networks in Industrial Environment: Energy Efficiency, Delay and Scalability*”, INRIA, 25 February 2014.
 4. **Abdelhak Farsi**, “*Toward a rapidly deployable communication infrastructure based on wireless mesh networks*”, Paris 13 University, 11 December 2012.
 5. **Arnaud Kaiser**, “*Multiplayer video games over Ad-Hoc networks*”, Paris 13 University, December 2011.
 6. **Sondes Khemiri**, “*Dimensioning and resource allocation in IEEE 802.16 metropolitan networks*”, Paris 6 University, 25 October 2010.
 7. **Roxana Albu**, “*Communication architecture for wireless instrumentation networks*”, LAAS Toulouse, 11 July 2011.
 8. **Salim Benayoune**, “*Adaptation and Error Control Mechanisms for H.264/AVC Video Stream Transmission over UMTS/HSDPA Networks*”, Paris 13 University, 26 June 2009.
- Mid-term PhD committee examiner (6 theses)
 1. Hwerbi Khouloud, IPP Telecom Paris, (12/10/2023)
 2. Saadallah Ahmed, University Bourgogne Franche-Comte, (16/06/2023)
 3. Boukhalfa Mohamed Fouzi, Inria (16/01/2020)
 4. Bu Gewu, Inria (15/03/2017)
 5. Munoz Jonathan, Inria (02/02/2017)
 6. Bouali Lyes, Inria (13/12/2016)

Editorial Activities

- (2020) **Guest Editor** of the *special issue Special issue on multimedia fog/edge computing systems*, Multimedia Systems Journal, Springer. ([link](#)). [19]
- (2019) **Guest Editor** of the *special issue Special issue on fog/edge networking for multimedia applications*, Peer-to-Peer Networking and Applications Journal, Springer. ([link](#)). [20]
- (2014) **Guest Editor** of the *special issue Planning and Deployment of Wireless Sensor Networks – International Journal of Distributed Sensor Networks*, hindawi. ([link](#)). [21]
- (2012) **Guest Editor** of the *special issue Wireless Network: From Home to Backbone Telecommunication Systems Journal*, Springer. ([link](#)). [22]

Public Engagement and Science Outreach

- (2024) Participation in the popular-science program “**le Live**” on the channel “**L’esprit sorcier**”. This program aims to shed light on scientific investigations with the contribution of experts from prominent French public research institutes. During this program, I had the opportunity to highlight *research work on privacy protection during the collection of network traces transmitted by our mobile devices*.
- (2019) Seminar at the “**Savante Banlieue**” event. Popular-science presentation for the general public. *Title: Internet of things, digital revolution*.
- (2019) Seminar on the occasion of the “**25th anniversary of the Networks & Telecom department!**” at the IUT de Villetaneuse – Paris 13 University. *Title: (Internet of Things)*.
- (2018) Seminar at the national assembly of the Networks & Telecom departments (ACD-RT) event. 6–8 June 2018, Grenoble.

Conference and Workshop Organization, Program Committee Participation

- **Steering Committee**
 - Member of the steering committee of the IFIP Wireless Days conference since 2010.
- **General co-chair**

- (2021) 12th Wireless Days Conference (WD 2021), 30 June – 02 July – 2021, Paris, France (Virtual Conference).
- (2009) 2nd IFIP Wireless Days 2009 (WD 2009), 15 – 17 December 2009, Paris, France.
- **TPC co-chair**
 - (2023) 1st IEEE Virtual Conference on Communications (VCC 2023), 28 – 30 November 2023 (Virtual Conference). [IEEE VCC]
 - (2018) 10th Wireless Days 2018 (WD 2018), 3 – 5 April 2018, Dubai, United Arab Emirates.
 - (2014) Internet of Things (IoT), Selected Areas in Communications Symposium (SAC), IEEE Global Communications Conference 2014, 8 – 12 December 2014, Austin, Texas, USA
 - (2011) 3rd Global Information Infrastructure Symposium (GIIS 2011), 4 – 6 August 2011, Da Nang, Vietnam.
- **Track chair**
 - (2010) 3rd IFIP Wireless Days 2010, *Ad Hoc and Sensor Networks* track, 20 – 22 October 2010, Venice, Italy.
 - (2008) 1st IFIP Wireless Days 2008, *Home Networking* track, 24 – 27 November 2008, Dubai, United Arab Emirates.
- **Workshop chair**
 - (2021) 30th European Conference on Networks and Communications 2021 EuCNC, 9-11 June 2021.
- **Publicity chair**
 - (2021) 19th ACM Conference on Embedded Networked Sensor Systems SenSys2021, November 15 – 17, 2021, Coimbra, Portugal.
 - (2013) Global Information Infrastructure Symposium – GIIS 2013, 28 – 31 October 2013, Trento, Italy.
 - (2011) 4th Wireless Days Conference (WD 2011), 10 – 12 October 2011, Niagara Falls, Canada.
- **Research Groups – GDR**
 - *National co-organizer* of the ResCom hub spring non-thematic workshop days, CNRS GDR ASR, 26 – 27 March 2009, Paris/Villetaneuse, France.
- **Special Session**
 - (2016) IEEE CCNC 2016, Las Vegas, Nevada, USA.
- **Member of the program committee of international scientific conferences and workshops**
 - IEEE VCC (2023), CSNet (2023), EuCNC & 6G Summit (2022) - NET (2021, 2022), IJCDs 2022, IEEE *International Conference on Communications* – ICC (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2020, 2021), IEEE *Global Communications Conference* – GlobeCom (2009, 2010, 2011, 2012, 2013, 2014, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023), IEEE *Wireless Communications & Networking Conference* – WCNC (2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, WCNC 2020), IFIP *Wireless Days Conference* – WD (2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2021), IEEE *Personal, Indoor and Mobile Radio Communications Symposium* – PIMRC (2008, 2009, 2011, 2012, 2015, 2016, 2017, 2019, 2020, 2023), IEEE *Symposium on Industrial Electronics & Applications* (2012), *Global Information Infrastructure and Networking Symposium* – GIIS (2011, 2012, 2013, 2014, 2015, 2016)
- **Reviewer for international journals**
 - IEEE Transactions on Vehicular Technology, Computer Networks, International Journal of Communication Systems, European Transactions on Telecommunications, IEEE Communications Letters, Journals: Sensor Networks (MDPI), Wireless Communications and Mobile Computing, Internet of Things Journal, Ad Hoc Networks Journal.

Mobility and Visiting Positions Abroad

- **September 2019 to August 2021** : Inria secondment in the TRiBE team.
- **September 2011 to August 2013** : Inria secondment in the Hipercom2 team.
- **September 2008 to April 2010** : **Visiting researcher** at UCLA (University of California, Los Angeles, USA) in the team of Prof. Mario Gerla. **Duration** : 2 weeks in September 2008 and 1 week in April 2010. **Objective** : Collaboration on the topic of supporting video games over wireless networks.
- **March 2008** : **Visiting Associate Professor** at the DiCo laboratory, University of Milan, Italy. Invited by Dr. Dario Maggiorini. **Duration** : 2 weeks. **Objective** : Teaching a course at the doctoral school of the University of Milan and collaborating with Dr. Dario Maggiorini on the topic of objective evaluation of network impact on video games. **Course title** : Stochastic Processes and Markov Decision Processes. **Volume** : 10h course delivered 50% by my colleague Associate Professor Khaled Boussetta and 50% by myself.

2.4 Research Projects and Scientific Responsibilities (since 2020)

I participate in several research projects. Below I detail only the projects for which I have a significant supervisory role as leader or participant.

1. **Co-lead** : **PEPR NF - FITNESS** 2023–2027
Title : *From IoT breakthroughs to Network Enhanced Services*. The objectives of NF-FITNESS are to provide elementary building blocks and the conditions for their integration into vertical applications with guaranteed co-existence. These challenges require taking the whole system into account by considering a vertical and end-to-end integration. **Partners** : CNRS, IMT, CEA, INRIA (AGORA, AIO, FUN, TRiBE). **Duration** : 56 months. **Budget** : total funding (€4,982,820), Inria funding (€905,279.71), TRiBE funding (€292,699.86).
2. **Leader** : **STIC-AmSud LINT** 2022–2024
Title : *Leveraging federated mobility learning for tactile Internet*. The objective of the LINT project is to propose user trajectory prediction solutions using federated learning. This knowledge will subsequently be used to propose MEC resource allocation strategies while preserving user privacy. **Partners** : Sorbonne Paris Nord University (France), Federal University of Rio de Janeiro (Brazil), Federal University of Goiás (Brazil), Federal University of Minas Gerais (Brazil), Universidad del Desarrollo (Chile), University of Buenos Aires (Argentina). **Duration** : 24 months. **Budget** : (€55k).
3. **Participant** : **Inria-Nokia Bell Labs Challenge: LearnNet** 2024 – 2026
Title : *Learning Networks*. In this challenge, the learning networks framework is proposed as a new paradigm to explore new research directions at the crossroads of networking and machine learning. The objective is twofold: to revolutionize network protocol design from the perspective of machine learning applications, and to explore the use of machine learning to improve network management itself. **Partners** : Nokia Bell Labs, INRIA (COATI, EPIONE, MARACAS, NEO, PREMEDICAL, STATIFY, THOTH, TRiBE). **Duration** : 18 months. **Budget** : Funding for one postdoc for a duration of 18 months. **Role** : Co-supervision of a postdoc in collaboration with the INRIA NEO team and members of Nokia Bell Labs.
4. **Participant** : **PEPR MOBIDEC - Mob Sci-Dat Factory** 2023–2027
Title : *Sharing of tools for processing and analysing mobility data*. The objective is to contribute to the development of more sustainable mobility strategies by providing a decision-support methodology and a digital toolbox powered by appropriately selected and processed mobility data, for a deeper understanding of mobility uses and behaviors. **Partners** : UGE, IFPEN, IGN, CEREMA, INRIA (AGORA, ASCII, COATI, FUN, TRiBE). **Duration** : 48 months. **Budget** : total funding (€4,333,114), Inria funding (€1,385,520), TRiBE funding (€766,500.24k). **Role** : Co-supervision of a postdoc and two research engineers.

5. **Participant : PEPR NF - NAI** 2023–2027
Title : *Networks Architecture & Infrastructure and Networks, Cloud, & Sensing Convergence*. **Objective :** The objective of the NF-NAI project is to enable the efficient integration of a multitude of new technologies, such as those of the physical layer or the move to 3D, and architectural principles (such as slicing and dynamic end-to-end orchestration). It must facilitate the emergence of new applications and services through transparency in terms of performance, robustness and security across use cases. **Partners :** IMT, CNRS, EURECOM, INP Toulouse, CentraleSupélec, INRIA (AGORA, DIANA, RESIST, TRIBE). **Duration :** 56 months. **Budget :** total funding (€4,998,901), Inria funding (€490k), TRiBE funding (€200k). **Role :** Co-direction of a PhD student and co-supervision of a research engineer.
6. **Participant : DigiCosme VehiCloud Project** 2021–2024
Title : *How can Vehicles increase Cloud intelligence?* The objective of this PhD project is to answer the questions: What is the vehicular cloud? and under what conditions can it help the Edge/Cloud in their computing tasks. **Partners :** SAMOVAR – IMT (Andrea Araldo), LISN Univ. Paris Saclay (Lila Boukhatem). **Duration:** 36 months starting December 2021. **Budget :** Funding for a PhD scholarship. **Role:** PhD co-supervisor.
7. **Leader : Inria Development and Transfer Action (ADT)** 2020–2022
Title : *How mobile can a Mobile Edge Computing be?* The objective is to set up an experimental platform in which it is possible to evaluate the impact of mobility on applications using the Mobile Edge Computing concept. **Duration :** 24 months. **Budget :** funding for a research engineer.
8. **Participant : ANR MITIK Project** 2020–2024
Title : *Mobility and contact traces from non-intrusive passive measurements*. The main objective is to propose a new methodology to help the community acquire real wireless contact traces in a non-intrusive manner. **Partners :** INRIA (COMETE, TRIBE), University of La Rochelle, Sorbonne University (UPMC). **Duration:** 42 months. **Budget :** total funding (€594,052.71), Inria funding (€238,403.63). **Role:** co-direction of a PhD student, a research engineer and an intern.

2.5 Collaborations

Current collaborations

- National collaborations
 1. **Aline Carneiro Viana** (TRiBE – INRIA) : Collaboration on several issues related to the collection, analysis and inference of human mobility from wireless network traces. *Publications* : [3], [32], [33], [35], [37], [140], [38].
 2. **Cedric Adjih** (TRiBE – INRIA) : Collaboration on the placement, partitioning and offloading of deep learning models along the IoT-Edge-Cloud continuum. A co-directed PhD thesis is currently underway. *Publications* : [39].
 3. **Lila Boukhatem** (Paris Saclay University) & **Andrea Araldo** (IMT) : Collaboration around the co-supervision of Rosario Patane's thesis on the questions: What is the vehicular cloud? and under what conditions can it help the Edge/Cloud in their computing tasks. *Publications* : [29].
 4. **Khaled Boussetta** (L2TI – Laboratoire de Traitement et Transport de l'Information) : I have been collaborating with Khaled Boussetta since I joined Paris 13 University as an Associate Professor. I have co-directed/co-supervised several internships and PhD students that resulted in several publications (§ 3).
 5. **Paul Muhlethaler** (INRIA) : Collaboration on the deployment and optimization of broadcast in wireless sensor networks. This collaboration has resulted in several publications, notably as part of a collaboration with the VEDECOM Institute. *Publications* : [34], [47], [51], [54], [55], [56], [58], [59], [67], [68], [69], [70].
- International collaborations

1. **Niruth Bogahawatta & Kanchana Thilakarathna** (University of Sydney, Australia)
2. **Luis Henrique Maciel Kosmowski Costa** (Federal University of Rio de Janeiro, Brazil)
3. **Jussara M. Almeida** (Universidade Federal de Minas Gerais, Brazil)
4. **Kleber Vieira Cardoso** (Universidade Federal de Goiás, Brazil)

Past collaborations

- National collaborations

1. **Lucas Létocart** (LIPN (Laboratoire d'Informatique de Paris Nord)) : Collaboration on path planning for drones with the objective of collecting data available from a pre-deployed sensor network. This collaboration resulted in publications at the IEEE WCNC 2018 conference. *Publications* : [46], [53]
2. **Mérouane Debbah** (Huawei) : Collaboration with M. Debbah on the problem of cooperative MIMO communications for wireless sensor networks. This collaboration resulted in a publication at the *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications* (PIMRC) conference in 2014. *Publications* : [67]

- International collaborations

1. **Michele Nogueira & Aldri Santos** (Federal University of Paran) : Collaboration on the problem of QoS support in the new IEEE 802.11ax standard. This collaboration resulted in a publication at the IEEE Global Communications Conference – GlobeCom in 2016. *Publications* : [66]
2. **Claudio E. Palazzi** (Università degli Studi di Padova) : Collaboration with M. Palazzi on the problem of disconnections in wireless ad hoc networks for video game applications. This collaboration resulted in two publications. *Publications* : [82]
3. **Dario Maggiorini** (University of Milano) : Collaboration with M. Maggiorini on the impact of network metrics on the quality perceived by players (gameplay). This collaboration resulted in a publication at the *IEEE Globecom* conference in 2009. *Publications* : [86]

3 Publications

International journals

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