### 1) Parcours Professionnel / Professional history

### Situation professionnelle actuelle / Current professional status

Statut et fonction<sup>2</sup> / *Position and Status*<sup>2</sup>: Maître de conférences/Associate Professor – HDR Etablissement (ville - pays) / *Institution (city - country)*: Université Sorbonne Paris Nord (formerly University Paris 13), France

Date d'entrée en fonction / Start: 01/09/2004

#### Expériences professionnelles antérieures /Previous professional experiences

Date début	Date fin	Etablissement	Fonction et statut <sup>2</sup>	
Start	End	Institution	Position and status <sup>2</sup>	
01/09/2019	31/08/2021	TRiBE – Inria Saclay	Délégation Inria/Visiting Associate Profes-	
			sor	
01/09/2004	-	Université Sorbonne Paris Nord	Maître de conférences/Associate Professor	
01/09/2011	31/08/2013	Hipercom2 – Inria Rocquencourt	Délégation Inria/Visiting Associate Profes-	
			sor	
01/09/2003	31/08/2004	Conservatoire National des Arts et	Attaché Temporaire d'Enseignement et de	
		Métiers – CNAM	Recherche – ATER	
01/09/2002	31/08/2003	Université Paris Sud ("Paris Saclay")	Attaché Temporaire d'Enseignement et de	
			Recherche – ATER	

### 2) Activité de Recherche / Research Activity

My current research activities can be structured as follows:

- Data gathering and dissemination in wireless networks: Data have become increasingly central and, consequently, their collection and distribution. In my research I focused on optimizing data gathering and dissemination in different contexts including: massive cooperative communications, optimized broadcast intelligent data dissemination in VANETs, collaborative environment perception in VANETs and path planning for wireless drone networks.
- 2. Deployment and dimensioning of networks and services: The deployment and dimensioning of networks are two crucial and recurrent problems that pose new challenges with each conceptual, architectural, or even technological evolution. I am currently interested in *offloading* strategies in Edge/Cloud Computing Systems for lot/mobile application. Besides, I have extensively worked on the deployment of wireless sensor networks, on the deployment and dimensioning of wireless mesh networks.

In almost all of the research works, the research methodology was to analyze the optimal theoretical solution via any optimization approach based on **linear programming**. Then, when demonstrating the not feasibility of the problem at large scale, propose **heuristic and distributed algorithms**, from which it is possible to verify the performance via large-scale **simulation**. Finally, when it is possible, validate the proposed solutions via setting up **experimental platforms**.

### 3) Prix et distinctions / Prizes and awards

- Best paper award,
  - IEEE CCNC 2008 [8].
- Selected papers for fast track journal publication:
  - ACM MSWiM 2018 [49] → Elsevier Computer Communications Journal [52].
  - ACM MSWiM 2019 [51] → Elsevier Computer Communications Journal.

## 4) Encadrement d'activités de recherche / Supervision of research activities

#### Encadrement de thèses / PhD students:

1. **Faiz Sanaullah** (19/11/2018 –); *Supervision*: 50%; (jointly with Khaled Boussetta, University Paris 13, France);

Topic: Cooperative sensing for vehicular networks;

<u>Objective</u>: We focus on vehicular safety applications based on the DSRC standard. The question that we want to answer is: how vehicles equipped with different types of sensors (radars, lidars, cameras, etc.) can share their environment perception to build a reliable collective perceptual environment? to reduce the channel congestion. <u>Significance of the work</u>: Cooperative sensing in vehicular networks is considered as an open issue in the literature. Here, we are focusing on the construction of sharing the perceptual environment between vehicles equipped with sophisticated safety equipment (could be autonomous vehicles) cooperate with low equipped vehicles.

Publications: -

 Célia Yasmine Tazibt (10/10/2017 –); Supervision: Supervision: 50%; (jointly with Tounsia Djamah, Laboratoire de Recherche en Informatique, LARI, Université Mouloud Mammeri, Tizi-Ouzou, Algérie; *Topic*: "Data gathering using Unmanned Aerial Vehicles (UAVs)";

**Objective:** We focus on the path planning problem when considering a data-gathering application. The objective is to maximize the amount of data collected by a drone according to the priority accorded to the data as well as the fly time duration of the drone.

<u>Significance of the work:</u> First, we demonstrate the advantage of integrating drone, by computing the best compromise, in terms of energy consumption and delay, between drone-based and routing based data gathering. After that, we propose an offline strategy based on a potential field approach. Each source of data is modeled as an attractive force depending on the amount of available data. A combination of these forces allows us to compute the best trajectory that maximizes the amount of collected data and limiting the drones' energy consumption.

Publications: [57, 56].

3. Lê Hoan (06/03/2017 –); *Supervision: Supervision:* 50%; (jointly with Khaled Boussetta, University Paris 13, France);

Topic: Fog Computing: Service Architectures for Data Management and Energy-efficiency;

*Objective*: Focus on the fog computing services architecture for the Internet of Things by controlling and managing IoT heterogeneous devices through defining their profiles and storing information.

*Significance of the work*: Build a general management scheme to describe and store information of IoT heterogeneous devices based on LDAP.

Publications: [33].

4. **Amal Kammoun** (06/04/2017 – 19/12/2019); *Supervision*: 25%; (jointly with Gladys Diaz Salsa, University Paris 13, France, and Nabil Tabbane, Supcom, Tunisia);

Topic: ISDN/NFV-based Network Slicing Management;

**Objective:** We want to answer the following question: how to deploy and manage network slices in an SDN/NFV environment?. To meet this requirement, we first propose a new framework for the provisioning of network services, then, we optimize the slide deployment, and finally, we monitored the network slices during its execution. Significance of the work: On-demand network slices creation is considered as a hot topic in the literature. This work has the benefits of considering all the phases of the slice life cycle from the request to the monitoring. <u>Publications</u>: [43, 42, 41, 44].

5. Houssemeddine Mazouzi (15/09/2016 – 22/11/2019); *Supervision*: 50%; (jointly with Khaled Boussetta, University Paris 13, France);

Topic: Algorithms for Tasks Offloading on Multiple Mobile Edge Servers;

<u>Objective</u>: We focus on computation offloading in a mobile environment (Mobile Edge Computing - MEC), composed of several edge servers. We improve applications performances in terms of execution time and energy consumption while ensuring application requirements.

Significance of the work: Unlike most works of literature, we consider offloading to several possible Edge server locations. We also consider mono and multi-task applications. We validate our proposal either

theoretically and by experimentation using our proposed offloading platform. To the best of our knowledge, our work is one of the earliest works considering both multi-task applications and multiple edge servers. *Publications*: [50, 51, 52, 49].

6. **Mustapha Bekhti** (28/10/2014 – 20/01/2018); *Supervision*: 50%; (jointly with Khaled Boussetta, University Paris 13, France);

Topic: Algorithms for Unmanned Aerial Vehicles (UAVs) Path Planning with Terrestrial Wireless Network Tracking;

*Objective*: We propose path planning for UAV, with the objective to maximize the UAV tracking using terrestrial wireless network

Significance of the work: This work is considered as one of the first works considering terrestrial wireless networks for UAVs tracking. Assuming that the UAVs periodically reports its location using the terrestrial wireless network, our idea is to select, among all the possible paths, of the path which guarantees a packet delivery ratio above the threshold imposed by the regulation as well as collision avoidance and some UAVs physical constraints (i.e. energy). We also extended the work to 3D environment and in the case. *Publications:* [31, 18, 57, 16, 17, 15].

7. **Abdelhak Farsi** (06/11/2007 – 11/12/2012); *Supervision*: 45%; (jointly with Khaled Boussetta, University Paris 13, France, and Ken Chen, University Paris 13, France);

Topic: "Planing and resource allocation in Wireless Mesh Networks";

<u>Objective</u>: Wireless mesh networks (WMNs) have emerged as a key technology for wireless networks, showing rapid progress and inspiring numerous applications. In this thesis, we emphasize on the planning and resource allocation in WMN.

Significance of the work: We investigate the problem of mesh node placement and channel allocation, intending to minimize the installation cost and interferences while maximizing users' nominal throughput. After that, we focus on backhaul topology formation and capacity assignment problems that we solve using an iterative-based Weighted Max-Min Fair Capacity Allocation algorithm. Finally, we propose a dimensioning methodology maximizing the capacity at the backhaul tier and sharing it in a weighted max-min fair manner among all mesh routers.

Publications: [29, 30, 32, 28].

8. **Arnaud Kaiser** (26/11/2007 – 05/12/2011); *Supervision*: 45%; (jointly with Khaled Boussetta, University Paris 13, France, and Ken Chen, University Paris 13, France);

*Topic*: "MANET Network Adaptation Mechanisms for Real-Time Multiplayer Video Games";

*Objective*: The objective here is to improve the gameplay of time-sensitive video games over mobile ad hoc networks (MANETs).

Significance of the work: We first analyse of the network traffic generated by a multilayer real-time video game. We also propose an OLSR-based routing protocol that considers both the delay and the energy as routing metrics to find the best compromise between the quality of gaming and network lifetime. Therafter, we focus on delay fairness, and we propose a mac-based lag compensator. Finally, to copes with gaming disconnections due to mobility issues, we propose both multi-path routing protocol and server migration algorithm.

*Publications:* [38, 39, 25, 54, 37, 40, 36].

9. **Nadjib Aitsaadi** (01/09/2006 – 11/03/2010); *Supervision*: 70%; (jointly with Guy Pujolle, UPMC, France); *Topic*: "Multi-Objective Wireless Sensor Network Deployment";

<u>Objective</u>: Here, we address the problem of static wireless sensor network deployment in order to build the best network topology in order to: i) minimize the deployment cost (i.e. number of sensors), ii) maximize the quality of monitoring (i.e. events detection probability), iii) guarantee network connectivity, and iv) maximize the network lifetime.

<u>Significance of the work:</u> Here, we propose several deployment strategies. First, we consider only the deployment cost and the monitoring quality. There after we introduce the connectivity as new constraint and we propose two deployment strategies based on the Tabu Search meta-heuristic. Finally, we consider all of the objectives together and we proposed a Multi-Objective Deployment Algorithm (MODA) based on Multi-Objective Tabu Search (MOTS) meta-heuristic and virtual forces. *Publications:* [13, 12, 11, 10, 9, 7, 8, 6].

10. Salim Benayoune (19/11/2004 – 26/06/2009); Supervision: 25%; (jointly with Khaled Boussetta, Univer-

sity Paris 13, France, and Ken Chen, University Paris 13, France);

Topic: "Error Control Mechanisms for H.264/AVC Video Streaming over UMTS/HSDPA Network";

<u>Objective</u>: In this work, we propose a set of MAC layer adaptation in order to enhance H.264/AVC video delivery quality of experience in the case of UMTS/HSDPA wireless infrastructure.

Significance of the work: First, we propose an experimentation platform to evacuate the impact of error resilience tools defined by H.264 standard over imperfect wireless links. We extended this platform to emulate the transmission of H264 video flows over UMTS/HSDPA network. Finally, we propose unequal error protection algorithm and opportunistic flow control algorithm.

*Publications*: [22, 21, 20, 19].

### Encadrement Postdocs / Post-doctoral fellows (1):

 Michele Garraffa (01/06/2017 – 01/02/2018). Topic: Path planning with multiple Unmanned Aerial Vehicles (UAVs) [31]. Collaborators: Lucas Létocart, Laboratoire d'Informatique de Paris Nord, LIPN, University Paris 13.

## Encadrement de stages master et ingénieur / M.Sc. and Ing. Intern (15):

- 1. Jiangnan Yang (March 2016 August 2016); Supervision: 50% with Paul Muhlethaler, EVA INRIA.
- 2. Kevin Tewouda (March 2015 August 2015); *Supervision*: 50% with Paul Muhlethaler, EVA INRIA.
- 3. Ahmed Amari (April 2013 August 2013); *Supervision*: 50% with Paul Muhlethaler, EVA INRIA.
- 4. Asma Belhaoua (April 2013 August 2013); *Supervision*: 50% with Paul Muhlethaler, EVA INRIA.
- Aubin Amrhein (April 2011 September 2011); Supervision: 50% with Khaled Boussetta, University Paris 13.
- Hassene Miladi (May 2011 September 2011); Supervision: 50% with Khaled Boussetta, University Paris 13.
- 7. Nabil Hatimi (March 2010 August 2010); *Supervision*: 50% with Khaled Boussetta, University Paris 13.
- Abdelhak Farsi (April 2007 September 2007); Supervision: 50% with Khaled Boussetta, University Paris 13.
- 9. **Ahmad Sardouk** (February 2007 July 2007); *Supervision*: 30% with Khaled Boussetta, University Paris 13, and Sidi-Mohammed Senouci, FT R&D.
- 10. **Pierre Checa** (February 2006 July 2006); *Supervision*: 30% with Khaled Boussetta, University Paris 13, and Sidi-Mohammed Senouci, FT R&D.
- 11. **Sondes Khemiri** (April 2006 September 2006); *Supervision*: 40% with Khaled Boussetta, University Paris 13, and Guy Pujolle, LIP6, UPMC, France.
- 12. **Nadjib Aitsaadi** (April 2006 September 2006); *Supervision*: 40% with Khaled Boussetta, University Paris 13, and Guy Pujolle, LIP6, UPMC, France.
- 13. Ismaila Sy (April 2005 September 2005); Supervision: 50% with Gladys DIAZ, University Paris 13.
- 14. Adel Grir (April 2005 September 2005); *Supervision*: 50% with Gladys DIAZ, University Paris 13.
- 15. Thierry Marinier (March 2004 August 2004).

## 5) Responsabilités collectives / Responsibilities

### Commissions et comités / Commissions and Committees

- At University Paris 13:
  - (mars 2013 mars 2017) Elected Member of "Conseil de l'Institut Galilée" .
  - (mars 2013 mars 2017) Elected Member of "Conseil Scientifique de l'Institut Galilée".
  - (2012 2017) Elected Member of Conseil de Laboratoire (L2TI).
  - (2009 2013) Elected Member and Vice President of comité d'experts section 61e de l'Université Paris 13

- Other committees
  - (2019) Member of comité de sélection, Université Paris-Saclay, MCF 27 number 1741.
  - (2013) Member of comité de sélection, Université Paris 13, MCF 27 number 0105.
  - (2013) Member of comité de sélection, Université de Toulouse III, MCF 61 number 1770.
  - (2009) Member of comité de sélection, Université Paris 13, MCF 61 number 0786.
  - (2009 2010) Member of comité de sélection, Université Paris 13, ATER 61.

### Activités éditoriales / Editorial activities

- (2019) **Guest Editor** of *Special issue on fog/edge networking for multimedia applications*, Peer-to-Peer Networking and Applications Journal, Springer [35].
- (2016) **Guest Editor** of *Special Issue on Mobile Multimedia Cloud Computing*, EURASIP Journal on Wireless Communications and Networking, Springer (link).
- (2014) **Guest Editor** of *Special Issue on Planning and Deployment of Wireless Sensor Networks*, International Journal of Distributed Sensor Networks, Hindawi [26].
- (2014) **Guest Editor** of *Special Issue on wireless network: from home to backbone*, Telecommunication Systems, Springer [4].

### Membre du comité organisateur / Organizing committee member

- General co-chair: IFIP Wireless Days 2009, Paris, France.
- **TPC co-chair:** Wireless Days 2018, Dubai, EAU; Global Information Infrastructure Symposium 2011, Da Nanag, Vietnam; Selected Areas in Communications Symposium, Internet of Things (IoT), at IEEE Global Communications Conference Globecom 2014.
- Special Session Chair: IEEE CCNC 2016, Las Vegas, Nevada, USA.
- Track chair: Ad Hoc and Sensor Networks Track, IFIP Wireless Days 2010, Venise, Italie; Home Networking Track, IFIP Wireless Days 2008, Dubai, EAU.
- Publicity co-chair: IFIP Wireless Days 2011.
- Publication co-chair: Global Information Infrastructure Symposium GIIS 2013, Trento, Italy.
- **Organization committee** of *journées non thématiques de Printemps du Pôle ResCom du GDR CNRS ASR*, 2009, Paris/Villetaneuse, France.
- Member of the steering committee of IFIP Wireless Days, since 2009.

#### Membre de comité de programme / Program committee member

 CoRes 2020, EuCNC 2020, ICT 2018, WF-5G (2018, 2020), IEEE Global Communications Conference – GlobeCom (2009, 2010, 2011, 2011, 2012, 2013, 2014, 2016, 2017, 2018, 2020), IEEE Wireless Communications & Networking Conference - WCNC (2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018), IFIP Wireless Days Conference – WD (2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018), IEEE Personal, Indoor and Mobile Radio Communications Symposium - PIMRC (2008, 2009, 2011, 2012, 2015, 2016, 2017, 2018, 2019, 2020), IEEE International Conference on Communications – ICC (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018), IEEE Symposium on Industrial Electronics & Applications (2012), Global Information Infrastructure and Networking Symposium – GIIS (2011, 2012, 2013, 2014, 2015, 2016), 6th Workshop On User MObility and VEhicular Networks - On-Move (2012), Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks – WiOpt (2010, 2011), IEEE International Workshop on Ubiquitous Multimedia Systems and Applications – UMSA 2009, IEEE International Conference on Computer Communications and Networks - ICCCN 2008 (Next Generation Wireless Network track and Protocols and Algorithms for Wireless Networks Track). International Home Networking Conference – IHN 2007, International Conference on Signal Processing and Communication Systems – ICSPC 2007, International Workshop on ITS for an Ubiquitous ROADS – UBIROADS 2007, IFIP/IEEE Network Control conference – NetCon (2005, 2006)

#### Activités de relecture / Reviewer activities

• **Regular reviewer of several international journals:** IEEE ACCESS, 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.

#### Membre du comité de thèsee / PhD thesis committee member (20)

- Rapporteur / Reviewer (14)
  - 1. **Dorin Marian Rautu**, *Déploiement temporaire d'une infrastructure de communication à base de drones*, Université de Toulouse, 1 octobre 2019.
  - 2. Jonathan Munoz Mauricio Soto, *km-scale Industrial Networking*, INRIA EVA, Université de Pierre et Marie Curie, mars 2019.
  - 3. **Tarek Rabia**, *Virtualisation des Fonctions d'un Cloud Radio Access Network (C-RAN)*, Université de Pierre et Marie Curie, janvier 2018.
  - 4. **Mohamed Ali Moussa**, *Data Gathering and Anomaly detection in Wireless Sensor Networks*, Université Paris-Est, novembre 2017.
  - 5. Alexandre Laube, Agrégation de trafic pour réduire la consommation énergétique globale dans les réseaux sans fil multi-sauts, Université Paris-Saclay, septembre 2017
  - 6. **Romain Sorokin**, *Video Conference bases on Entreprise Desktop Grid*, Telecom ParisTech, 24 février 2017.
  - 7. Alexandre Ragaleux, Mécanismes d'Accès Multiple dans les Réseaux Sans Fil Large Bande, Université Pierre et Marie Curie, 22 septembre 2016.
  - 8. EL Hadji Malick Ndoye, Réseaux de capteurs sans fil linéaires : Impact de la connectivité et des interférences sur une méthode d'accès basée sur des jetons circulants, Université Blaise Pascal, Clermont-Ferrand, 21 décembre 2015.
  - 9. **Oussama Stiti**, *Etude de l'Urbanisation des Accès Virtuels et Stratégie de Métamorphose de Réseaux*, Université Pierre et Marie Curie, 15 décembre 2015.
  - 10. **Ines Khoufi**, Autonomous or Assisted Deploymentby Mobile Robots of Wireless Sensor Networks : Coverage and Connectivity Issues, INRIA, 30 septembre 2015.
  - 11. **Mario Antonio Zancanaro**, Identification des éléments RFID mobiles dans les environnements intérieurs associant la couche application et la couche physique, Université Paris 6, 26 January 2015.
  - 12. Inés Ben Jemaa, Multicast communications for cooperative vehicular systems, MINES ParisTech, 17 December 2014.
  - 13. **Ibtissem Boulanouar**, *Algorithmes de suivi de cible mobile pour les réseaux de capteurs sans fil*, University Paris EST, France, 24 June 2014.
  - 14. **Rima Hatoum**, Algorithmes d'ordonnancement inter-couches avec adaptation de modulation et de codage dans un réseaux Hétérogènes, UPMC, France, 26 June 2014.
- Examinateur / Examiner (2)
  - 1. Ridha Soua, Wireless Sensor Networks in Industrial Environment: Energy Efficiency, Delay and Scalability, INRIA, 25 February 2014.
  - 2. **Roxana Albu**, *Architecture de communication pour les réseaux d'instrumentation sans fil*, LAAS Toulouse, 11 July 2011.
- Invité / Invited (1)
  - 1. Younes Bouchaala, Handling Safety Messages in Vehicular Ad Hoc Networks (VANETs), Inria, 21 December 2017.
- Examinateur mi-parcours de thèse / PhD Mid-term examiner (3)
  - 1. Boukhalfa Mohamed Fouzi, Inria (16/01/2020)
  - 2. Bu Gewu, Inria (15/03/2017)
  - 3. Munoz Jonathan, Inria (02/02/2017)
  - 4. Bouali Lyes, Inria (13/12/2016)

## 6) Management / Management

#### Projets de recherche (depuis 2004) / Research projects (since 2004)

- BQR Lora@P13 (2018 ongoing); This project proposes to deploy a LoRaWAN experimentation platform on the Villetaneuse campus of the University Paris 13. The objective is to study via experimentation the localization of IoT devices when using LoRaWAN. This platform is also dedicated to the use of students for labs on IoT.
- Action COST IntelliCIS (*May 2009 April 2013*); This project is a collaborative research activity on Intelligent Monitoring, Control and Security of Critical Infrastructure Systems. IntelliCIS brings together 58 partners from 28 European countries and two non-European countries.
- Projet ANR-RIAM MAD-GAMES (December 2006 May 2010); The MAD-GAMES project is an ANR RIAM project. The objective MAD-GAMES is to develop network middleware allowing the support of multiplayer video games over wireless ad hoc network infrastructure. For this project, I was, with my colleague *Khaled Boussetta*, at the initiative of the project. I actively participated in the preparation of the proposal and seeking and contacting partners. <u>Scientific contributions</u>: (1) the assessment of network metrics impact of the video quality of experience, (2) The proposition of an energy-delay based routing protocol for ad hoc networks, and (3) The proposal for an ad hoc network emulation platform. This work was done as part of the Ph.D. thesis of Arnaud Kaiser that I co-supervised with my colleague *Khaled Boussetta* (45%) and *Ken Chen* (10%).
- Projet ANR–RIAM SOUND-DELTA (December 2006– December 2009); The SOUND-DELTA project is an ANR RIAM project. This project proposes an environment of musical and spatial composition for massive and individualized restitution. <u>Scientific contributions</u>: The deployment of Wireless Mesh Network infrastructure and, more precisely, on the deployment, channel allocations, and routing protocols in order to meet the application requirements in terms of delay and bandwidth. This work was done as part of the Ph.D. thesis of Abdelhak Farsi that I co-supervised with my colleagues Khaled Boussetta (45%) and Ken Chen (10%).
- Projet ANR–JC PADAWAN (December 2005 December 2008); The PADAWAN project is an ANR JCJC project. The goal of this project was to provide end-user (mobile or not), access to the Universal Proxy PADAWAN (Proxy for All Devices Accessing the World And Neighborhood). This proxy allows the integration of data from a variety of heterogeneous sources such DBMS of different types (relational, XML, etc.), websites, sensors (GPS location, temperature, pressure, camera, etc.) and export all these data to the end-user. <u>Scientific contributions</u>: The proposition of algorithms for the deployment of wireless sensor networks that minimize the deployment cost, maximize the events detection probability and network lifetime while guarantying the network connectivity. This work was done in collaboration Khaled Boussetta and as part of the Ph.D. thesis of Nadjib Aitsaadi that I co-supervised with Guy Pujolle (30%).

#### Management d'équipe pédagogique / Teahcing team management

Since I joined University Paris 13, I was responsible for:

- (since January 2017) I am the head of the Telecommunications and Networks engineering degree of the SupGalilee Engineering School. I am in charge of the coordination of the pedagogical team and students (more than 100 students), the preparation of the CTI (Commission des Titres d'Ingénieur) accreditation application, the management, and follow-up of internships, in addition of the organizing the students' recruitments process, degree promotion, etc.
- (from september 2013 to december 2016), **Responsible** of the second year of the *Telecommunications* and *Networks engineering degree of the SupGalilee Engineering School*. This responsibility included the coordination and organization of teaching, organization of juries, participation in the student selection process, recruitment of external industrial speakers, etc.
- (from 2010 to 2012), **Head** of the CDSIR University Diploma, in collaboration with Capgemini group. This diploma won the 1st price of *AEF Universités-Entreprises* category *Formation et Insertion* in 2010.

# 7) Collaborations, mobilité / Collaborations, mobility

### Mobilité / Mobility

- (09/2019 ongoing) Visiting Associate professor (Délégation Inria) in the TRiBE team, Inria Saclay.
- (09/2011 08/2013) Visiting Associate professor (*Délégation Inria*) in the Hipercom2 team, Inria Rocquencourt.
- (two weeks in September 2008 and 1 week in April 2010) *Visiting Researcher* at the research group of Pr. Mario Gerla, UCLA, USA. During this visit I stats collaboration with other invited researchers. This collaboration will be described in the collaborations section.
- (two weeks in March 2008) *Visiting Researcher* at the DiCo laboratory, University of Milan. Invited by Dr. Dario Maggiorini.

## Mobilité Thématique / Thematic mobility

- (from 2000 2011) I focused my research mainly on time-sensitive multimedia applications (including video and video Game) delivery over Wireline and Wireless networks
- (from 2006 now) I started exploring new research issues on the deployment and dimensioning of networks and services.
- (from 2010 now) I started exploring new research issues on data gathering and dissemination in wireless networks.

## **Collaborations / Collaborations**

During the past year as an associate professor, I initiated and materialized throw joint publications several national and international collaborations. Hereafter, a list of theses collaborations and the outcomes.

- Aline Carneiro Viana TRiBE Inria, France; I started this collaboration since September 2019 when I
  joined the TRiBE team as a visiting associate professor. This collaboration is on computation offloading in
  the Mobile Edge Computing environment with mobility.
- Paul Muhlethaler, Eva Inria, France; With Paul, I had a strong collaboration on (1) Optimized broadcast scheme for mobile ad hoc networks, (2) Channel spacial reuse in VANETs, (3) wireless sensor deployment, (4) data gathering using UAVs, and (5) Cooperative CAM disseminations in VANETs. This cooperation resulted in a large number of publications [14, 34, 56, 24, 53, 23, 1, 2, 3, 14, 5] and the supervision and collaboration with several students (*Jiangnan Yang, Kevin Tewouda, Ahmed Amari, Asma Belhaoua* and *Younes Bouchaala*).
- 3. **Nabil Tabbane** SupCom, Tunisia; I collaborated with Nabil Tabbane on the deployment and the management of slices in SDN/NFV environments. This cooperation resulted in several publications [43, 42, 41, 44] and the supervision of one PhD student jointly with Gladys Diaz Salsa (*Amal Kammoun*).
- 4. **Tounsia Djamah**, LARI (Laboratoire de Recherche en Informatique) University Mouloud Mammeri, Tizi-Ouzou, Algeria; on data gathering using UAV networks. This cooperation resulted in two publications [56, 57] and the supervision of one Ph.D. student jointly with Gladys Diaz Salsa (*Amal Kammoun*).
- 5. Lucas Létocart, LIPN (Laboratoire d'Informatique de Paris), University Paris 13, France; on the problem UAVs path planning for Wireless sensor network data gathering using a column generation heuristic approach. This cooperation resulted in two publications [31, 18] and the supervision of one post-doc (*Célia Yasmine Tazibt*).
- Michele Nogueira & Aldri Santos, Federal University of Paran, Brasil; on the quality of service assessment for time sensitive applications using IEEE 802.11ax standard. This cooperation resulted in one publications [27].
- 7. **Merouane Debbah**, Huawei, France; on cooperative massive MIMO communications using wireless sensor networks. This cooperation resulted in one publications [3].
- 8. **Guy Pujolle** LIP6, France; from 2006 to 2012, I collaborated with Guy Pujolle on (1) the problem of static wireless sensor network deployment in order to minimize the number of deployed sensors while maximizing the targeted phenomenon detection probability, the network lifetime, and guarantying the network

connectivity. This cooperation resulted in several publications [13, 12, 11, 10, 9] and the supervision of one PhD student (*Nadjib Aitsaadi*). I addition, I also collaborated with Guy Pujolle within the Ph.D. thesis of *Sondes Khemiri-Kallel*, that he jointly supervised with my colleague Khaled Boussetta. This second cooperation also resulted in several publications [47, 48, 46, 45]

- 9. Claudio E. Palazzi, Università degli Studi di Padova, Italy; on the video games server disconnection problem in MANETs. This cooperation resulted in one publications [54].
- 10. **Dario Maggiorini**, University of Milano, Italy; on experimental evaluation of delay and packet losses on the quality of experiences (gamelay) for end users in the case of video game applications. This cooperation resulted in one publications [40].
- 11. Sidi-Mohammed Senouci, Orange, France; on the assessment and the flooding protocols in the case of video game applications over MANETs. This cooperation resulted in one publication [55] and the supervision of two master students jointly with my colleague Khaled Boussetta (*Ahmad Sardouk and Pierre Checa*).

## 8) Enseignement / Teaching

I joined the University Sorbonne Paris Nord as an Associate professor in 2014, where I did **2330 hours of teaching** in front of the student (excluding project supervision, and administrative responsibilities). I assumed full pedagogical responsibility for a large part of my lectures, such as the preparation of course support (CM/*cours magistral*, TD/*travaux dirigés*), labs materials (TP/*travaux pratiques*) and the preparation of the evaluations and exams. My lectures mainly concerned networking: basic concepts (from the physical layer to the application layer) and advanced concepts (routing, QoS management for Multimedia applications, Internet of Things, etc.). I also assured many classes on programming using Java. Below a list of courses that I have proposed and created with other colleagues:

- Coding and Transmission of multimedia streams (2nd year of Master / 2e année de Master). I was in charge of this class from 2004 to 2015.
- Voice over IP and Telephony over IP (2nd year of Master and 3rd year in engineering school / 3e année de Master et 3e année d'école d'ingénieur). I was responsible for this course from 2009 to 2014.
- *Routing on the Internet* (RIP, OSPF, BGP) (2nd year in engineering school / *2e d'école d'ingénieur*). I have been responsible for this course from 2008 to 2019.
- Internet of Things (802.15.4, RPL, IPv6, 6LoWPAN, CoAP, MQTT) (3rd year in engineering school / 3e d'école d'ingénieur). I have been responsible for this course from 2016 to 2019.

All these years have given me a *substantial educational experience*. Besides, the diversity of the audiences for which I have given courses has allowed me to gain the experience and perspective necessary to adapt my teachings and my pedagogy to the target audience. Finally, I regularly proposed and supervised projects for high engineers in their second and third year (31 projects). Also, I also follow-up 25 engineering or masters students for their end-of-study internships.

Below, I summarize all of the classes that I did since September 2004 at the University of Paris 13. These classes were given to students following: Telecom and Network degree degree (*Ingénieur Télécoms et Réseaux* – *Ing. T&R*), Computer Science Engineer degree (*Ingénieur Informatique – Ing. Info.*), Energy Engineer degree (*Ingénieur Énergétique – Ing. Enr.*), first and second-year Master degree (M1 and M2) in networking and image processing (*Images et Réseaux*), and Bachelor's degree in computer science (*Licence*).

Course	Degrees	from $\rightarrow$ to	Total number of
			hours/all period
Internet Routing Protocols	Ing. 2 T&R	2008 →	267,5h
		2019	
Internet of Things	Ing. 3 T&R	2016 →	156h
		2019	
Networks Management	Ing. 3 Info.	2014 →	596,5h
		2019	
Coding and Transmission of multimedia	M2	2004 →	214,5h
streams		2015	
Internet Protocol	M1	2009 →	103,5h
		2011	
Voice over IP and Telephony over IP	M2	2009 →	55,5h
		2014	
Network Administration	Ing. 3 Info.	2014	43,5h
Introduction to Networking	Ing. 2 Ener., Bachelor	2004 →	340,25h
		2010	
Mobile Networks	M2	2008 →	47h
		2009	
Object programming for web application	M1	2016 →	178,5h
(JAVA)		2019	
Java and Network Programming	Ing. 2 T&R, Bachelor	2009 →	278,75h
		2019	
Multitasking operating system	Ing. 2 T&R	2014	48h

### 9) Diffusion de l'information scientifique / Dissemination of scientific knowledge

Présentations et démonstrations grand public / Presentations and demonstrations for the general public

- Speaker at "Savante Banlieue" festival (Ocotber 2019): Presentation to highschool classes from Seine-Saint-Denis department, France. *Title:* Internet of things, digital revolution (Internet des objets, révolution numérique). Link: http://www.savantebanlieue.com/mini-conferences/ informatique-et-creation-numerique/.
- Demonstration at "Savante Banlieue" festival (Ocotber 2017): Demonstration to highschool classes from Seine-Saint-Denis department, France. Demonstrations: (1) IoT Network using Zolertia devices, (2) 2.4GHz Radio Channel Sniffer.

### 10) Liste complète des contributions/Complete list of contributions

#### 1. Publications

In almost all my publications, we have been using the level of implication of the author as a protocol to decide on the order of the authors of publications. However, the students (master, Ph.D., and postdoc) are always usually the 1st author, followed by the list of the authors according to their implication and using alphabetical when the contributions are similar. Note that the papers number 19 20 65, and 66 follows only the alphabetical order. **Note:** the *impact factor* is a scientometric index that reflects the yearly average number of citations that articles published in the last two years. In the following, impact factors refers to the years of the publication. Finally, high-quality journals are indicated with ( $\star$ ).

#### 1.1 Revues internationales/International journals (10)

- 1. Houssemeddine Mazouzi, Khaled Boussetta, and Nadjib Achir. Maximizing mobiles energy saving through tasks optimal offloading placement in two-tier cloud: A theoretical and an experimental study. Computer Communications, 144:132 148, 2019 (**JCR**, **Impact Factor 2018: 2.766**)
- Houssemeddine Mazouzi, Nadjib Achir, and Khaled Boussetta. Dm2-ecop: An efficient computation offloading policy for multi- user multi-cloudlet mobile edge computing environment. ACM Trans. Internet Technol., 19(2), April 2019 (JCR, Impact Factor 2018: 2.382)

- 3. Mustapha Bekhti, Nadjib Achir, Khaled Boussetta and Marwen Abdennebi, Drone Package Delivery: A Heuristic approach for UAVs path planning and tracking, in *EAI Endorsed Transactions on Internet of Things*. 2017.
- (\*) Abdelhak Farsi, Nadjib Achir, and Khaled Boussetta. WLAN planning: Separate and joint optimization of both access point placement and channel assignment. *Annales des Télécommunications*, 70(5-6):263–274, 2015 (Impact Factor 2015: 1.03)
- (\*) Arnaud Kaiser, Nadjib Achir, and Khaled Boussetta. Multipath traffic balancing approach for disconnection reduction in video games over mobile ad hoc networks. Wireless Communications and Mobile Computing, 13(3):328–342, 2013 (Impact Factor 2013: 1.37)
- Sondes Khemiri, Khaled Boussetta, Nadjib Achir, Guy Pujolle, Mobile WiMAX Bandwidth Reservation Thresholds: A Heuristic Approach, International Journal of Wireless Networks and Broadband Technologies (IJWNBT), Volume 1, Number 2, Pages 42-61, Year 2011.
- (\*) Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle. Artificial potential field approach in WSN deployment: Cost, qom, connectivity, and lifetime constraints. *Computer Networks*, 55(1):84–105, 2011 (Impact Factor 2011: 3.28)
- 8. Salim Benayoune, Nadjib Achir, Khaled Boussetta et Ken Chen, A MAC centric Cross Layer approach for H.264 video streaming over HSDPA, *Journal of Communications (JCM), Special Issue on Multimedia Communications, Networking and Applications*, Volume 4, issue 9, Pages 691-699, 2009.
- (\*) Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta and Guy Pujolle, A Tabu Search WSN Deployment Method for Monitoring Geographically Irregular Distributed Events, *Sensors Journal*, Volume 9, Number 3, Pages 1625–1643, 2009. (Impact Factor 2009: 2.42)
- 10. Nadjib Aitsaadi, Nadjib Achir and Khaled Boussetta, A Mesh-Based Sensors Deployment Method For Water Quality Monitoring, *SeaTechnology Magazine*, Volume 49, Number 8, August 2008.

#### 1.2 Conférence internationales avec comité de lecture/Reviewed international conferences (65)

- Houssemeddine Mazouzi, Nadjib Achir, and Khaled Boussetta. Elastic offloading of multitasking applications to mobile edge computing. In Proceedings of the 22nd International ACM Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems, MSWiM 2019, Miami Beach, FL, USA, November 25-29, 2019, pages 307–314, 2019
- Amal Kammoun, Nabil Tabbane, Gladys Diaz, Nadjib Achir, and Abdulhalim Dandoush. Proactive network slices management algorithm based on fuzzy logic system and support vector regression model. In Proceedings of the 14th International Conference on Broad-Band Wireless Computing, Communication and Applications, BWCCA 2019, Antwerp, Belgium, November 7-9, 2019, pages 386–397, 2019
- Amal Kammoun, Nabil Tabbane, Gladys Diaz, Nadjib Achir, and Abdulhalim Dandoush. Dynamic handler framework for network slices management. In 2019 International Conference on Software, Telecommunications and Computer Networks, SoftCOM 2019, Split, Croatia, September 19-21, 2019, pages 1–6, 2019
- 4. Le Hoan, Boussetta Khaled, and Achir Nadjib. Fog computing architecture with heterogeneous internet of things technologies. *10th International Conference on Network of the Future, NoF, October 1-3, Rome, Italy*, 2019
- Amal Kammoun, Nabil Tabbane, Gladys Diaz, Nadjib Achir, and Abdulhalim Dandoush. Inter-slice mobility management in the context of SDN/NFV networks. In Imen Jemili and Mohamed Mosbah, editors, *Distributed Computing for Emerging Smart Networks - First International Workshop, DiCES-N 2019, Hammamet, Tunisia, October 30, 2019, Revised Selected Papers*, volume 1130 of *Communications in Computer and Information Science*, pages 77–90. Springer, 2019
- 6. Houssemeddine Mazouzi, Nadjib Achir, and Khaled Boussetta. Maximizing mobiles energy saving through tasks optimal offloading placement in two-tier cloud. In *Proceedings of the 21st ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems, MSWiM 2018, Montreal, QC, Canada, October 28 November 02, 2018*, pages 137–145, 2018
- 7. Sadia Ingrachen, Nadjib Achir, Paul Mühlethaler, Tounsia Djamah, and Amine Berqia. A collaborative environment perception approach for vehicular ad hoc networks. In *88th IEEE Vehicular Technology Conference, VTC Fall 2018, Chicago, IL, USA, August 27-30, 2018*, pages 1–5, 2018
- 8. Celia Yasmine Tazibt, Nadjib Achir, Paul Mühlethaler, and Tounsia Djamah. Uav-based data gathering using an artificial potential fields approach. In 88th IEEE Vehicular Technology Conference, VTC Fall 2018, Chicago, IL, USA, August 27-30, 2018, pages 1–5, 2018
- Amal Kammoun, Nabil Tabbane, Gladys Diaz, Abdulhalim Dandoush, and Nadjib Achir. End-to-end efficient heuristic algorithm for 5g network slicing. In 32nd IEEE International Conference on Advanced Information Networking and Applications, AINA 2018, Krakow, Poland, May 16-18, 2018, pages 386–392, 2018
- Michele Garraffa, Mustapha Bekhti, Lucas Letocart, Nadjib Achir, and Khaled Boussetta. Drones path planning for WSN data gathering: A column generation heuristic approach. In 2018 IEEE Wireless Communications and Networking Conference, WCNC 2018, Barcelona, Spain, April 15-18, 2018, pages 1–6, 2018

- 11. Mustapha Bekhti, Nadjib Achir, and Khaled Boussetta. Swarm of networked drones for video detection of intrusions. In Wireless Internet - 10th International Conference, WiCON 2017, Tianjin, China, December 16-17, 2017, Proceedings, pages 221–231, 2017
- 12. Mustapha Bekhti, Michele Garraffa, Nadjib Achir, Khaled Boussetta, and Lucas Letocart. Assessment of multi-uavs tracking for data gathering. In 13th International Wireless Communications and Mobile Computing Conference, IWCMC 2017, Valencia, Spain, June 26-30, 2017, pages 1004–1009, 2017
- 13. Paul Mühlethaler, Younes Bouchaala, Oyunchimeg Shagdar, and Nadjib Achir. Evaluating the gain of directional antennas in linear vanets using stochastic geometry. In *International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, PEMWN 2017, Paris, France, November 28-30, 2017*, pages 1–7, 2017
- Younes Bouchaala, Paul Mühlethaler, Oyunchimeg Shagdar, and Nadjib Achir. Optimized spatial CSMA for vanets: A comparative study using a simple stochastic model and simulation results. In 14th IEEE Annual Consumer Communications & Networking Conference, CCNC 2017, Las Vegas, NV, USA, January 8-11, 2017, pages 293–298, 2017
- Celia Yasmine Tazibt, Mustapha Bekhti, Tounsia Djamah, Nadjib Achir, and Khaled Boussetta. Wireless sensor network clustering for uav-based data gathering. In 2017 Wireless Days, Porto, Portugal, March 29-31, 2017, pages 245–247, 2017
- 16. Younes Bouchaala, Paul Mühlethaler, and Nadjib Achir. Analysis of the IEEE 802.11 EDCF scheme for broadcast traffic: Application for vanets. In 2017 Wireless Days, Porto, Portugal, March 29-31, 2017, pages 252–257, 2017
- 17. Rafael Araujo da Silva, Aldri Santos, Michele Nogueira, Khaled Boussetta, and Nadjib Achir. Avoiding collisions by time slot reduction supporting voice and video in 802.11 networks. In 2016 IEEE Global Communications Conference, GLOBECOM 2016, Washington, DC, USA, December 4-8, 2016, pages 1–6, 2016
- Mustapha Bekhti, Marwen Abdennebi, Nadjib Achir, and Khaled Bous- setta. A heuristic path planning approach for UAVs integrating tracking support through wireless networks. In 2nd EAI International Confer- ence on Smart Objects and Technologies for Social Good, GoodTech 2016, Venice, Italy, November 30–December 1, 2016.
- Nadjib Achir, Younes Bouchaala, Paul Muhlethaler and Oyunchimeg Shagdar, Comparison of spatial Aloha and spatial CSMA using simple stochastic geometry models for 1D and 2D networks, in 23<sup>rd</sup> International Conference on Telecommunications, *ICT*'2016, Thessaloniki, Greece, 16–18 May 2016.
- Nadjib Achir, Younes Bouchaala, Paul Muhlethaler, and Oyunchimeg Shag- dar. Optimisation of spatial CSMA using a simple stochastic geometry model for 1d and 2d networks. In 2016 International Wireless Communications and Mobile Computing Conference (IWCMC), Paphos, Cyprus, September 5-9, 2016, pages 558–563, 2016.
- Ines Khoufi, Pascale Minet, and Nadjib Achir. Unmanned Aerial Vehicles Path Planning for Area Monitoring. In PEMWN 2016 : The 5th IFIP International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, Paris, France, November 2016.
- 22. Paul Muhlethaler, Younes Bouchaala, Oyunchimeg Shagdar, and Nadjib Achir. A simple Stochastic Geometry Model to test a simple adaptive CSMA Protocol: Application for VANETs. In PEMWN 2016 5th IFIP International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, Paris, France, November 2016.
- 23. Mustapha Bekhti, Marwen Abdennebi, Khaled Boussetta and Nadjib Achir, Path Planning of Unmanned Aerial Vehicles With Terrestrial Wireless Network Tracking, in proceedings IFIP Wireless Days *WD*'2016, Toulouse, Mars 2016.
- 24. Mohamed Nidhal Mejri, Nadjib Achir and Mohamed Hamdi, A New Security Games Based Reaction Algorithm Against DOS Attacks in VANETs, in *Fifth IEEE Consumer Communications & Networking Conference CCNC'2016*, Las Vegas, Nevada, USA, January 9–12, 2016.
- 25. Mohamed Nidhal Mejri, Nadjib Achir and Mohamed Hamdi, A New Group Diffie-Hellman Key Generation Proposal for Secure VANET Communications, in *Fifth IEEE Consumer Communications & Networking Conference CCNC'2016*, Las Vegas, Nevada, USA, January 9–12, 2016.
- 26. Nadjib Achir and Paul Mühlethaler. Optimal sinks deployment and packet scheduling for wireless sensor networks. In 2014 IFIP Wireless Days, WD 2014, Rio de Janeiro, Brazil, November 12-14, 2014, pages 1–6, 2014
- 27. Nadjib Achir, Mérouane Debbah and Paul Muhlethaler, Massive MIMO Cooperative Communications for Wireless Sensor Networks: Throughput and Energy Efficiency Analysis, in IEEE 25th International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2014), Washington D.C, September 2014.
- Ahmed Amari, Nadjib Achir, Paul Muhlethaler and Anis Laouiti, Optimized Broadcast Scheme for Mobile Ad hoc Networks, in IEEE Wireless Communications and Networking Conference (WCNC 2014), Istanbul, Turkey, April 2014.
- 29. Abdelhak Farsi, Nadjib Achir and Khaled Boussetta, Gladys Diaz and Arturo Gomez, Backhaul topology design and weighted max-min fair capacity allocation in wireless mesh networks, in Advanced Infocomm Technology, ser. Lecture Notes in Computer Science, Ed. Springer Berlin Heidelberg, 2013, vol. 7593, pp. 296-309.
- Arturo Gomez, Gladys Diaz, Khaled Boussetta, Nadjib Achir and Abdelhak Farsi, Adaptive Contention Window for Zone-Based Dissemination of Vehicular Traffic, in Advanced Infocomm Technology, ser. Lecture Notes in Computer Science, Ed. Springer Berlin Heidelberg, 2013, vol. 7593, pp. 330-339.

- Bartłomiej Błaszczyszyn, Paul Mühlethaler and Nadjib Achir, Vehicular Ad-hoc Networks using slotted Aloha: Pointto-Point, Emergency and Broadcast Communications, *in proceedings IFIP Wireless Days (WD 2012)*, Dublin, Ireland, November 19-23, 2012.
- 32. Nadjib Achir and Paul Mühlethaler, General Framework for Multi-Sink Wireless Sensor Network: Deployment and Energy Analysis, *in International Workshop on Evaluation and Modeling in Wireless Networks (PEMWN 2012)*, Tunis, Tunisia, november 22, 2012.
- Abdelhak Farsi, Nadjib Achir and Khaled Boussetta, Three-phase Heuristic Algorithm for Wireless LAN Planning, in proceedings of IEEE Wireless Communications and Networking Conference (WCNC 2012), Paris, France, April 1-4, 2012.
- 34. Khaled Boussetta, Arnaud Kaiser and Nadjib Achir, Effects of packetization delay on multiplayer gaming experience over ad hoc networks, *in proceedings of the 4th IFIP Wireless Days Conference 2011*, Niagara Falls, Ontario, Canada, October 10-12, 2011.
- 35. Arnaud Kaiser, Nadjib Achir and Khaled Boussetta, An Energy-Delay Routing Protocol for Video Games over Multihops Ad Hoc Networks, *Third International ICST Conference on Ad Hoc Networks - AdHocNets*, Paris, France, September 2011.
- 36. Abdelhak Farsi, Nadjib Achir and Khaled Boussetta, Heuristic Approaches for Access Points Deployment and Frequency Assignment in WLANs, *in Global Information Infrastructure Symposium (GIIS 2011)*, Da Nang, Vietnam, 4th-6th August 2011.
- 37. Arturo Gomez, Gladys Diaz, Khaled Boussetta and Nadjib Achir, Use Case Description of VPAIR: Virtual Police Agents for Traffic Guidance, *in Global Information Infrastructure Symposium (GIIS 2011)*, Da Nang, Vietnam, 4th-6th August 2011.
- 38. Arnaud Kaiser, Nadjib Achir and Khaled Boussetta, A multipath traffic balancing proposal to reduce gaming disconnections in MANET, In *third IFIP Wireless Days – WD 2010*, Venise, Italy, October, 2010.
- Sondes Khemiri, Khaled Boussetta, Nadjib Achir, Guy Pujolle, A combined MAC and Physical resource allocation mechanism in IEEE 802.16e networks, in *IEEE 71st Vehicular Technology Conference (VTC2010-Spring)*, Taipei, Taiwan, May 16-19, 2010.
- Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle, Multi-Objectives WSN Deployment: Quality of Monitoring, Connectivity and Lifetime, in *IEEE International Conference on Communications (ICC 2010)*, Cap Town, South Africa, May 23-27, 2010.
- 41. Salim Benayoune, Nadjib Achir, Khaled Boussetta and Ken Chen, A MAC-level Flow Control Algorithm For H.264/AVC Video Streaming Over HSDPA, International Wireless Communications and Mobile Computing Conference (IWCMC 2010), June 2010, Caen, France.
- 42. Arnaud Kaiser, Nadjib Achir and Khaled Boussetta, Improving energy efficiency and gameplay fairness for timesensitive multiplayers games in MANET, IEEE ICC'10 Workshop on Energy Efficiency in Wireless Networks & Wireless Networks for Energy Efficiency (E2Nets 2010), Cape Town, South Africa, May, 2010.
- 43. Claudio. E. Palazzi, Arnaud Kaiser, Khaled Boussetta and Nadjib Achir, A Preliminary Evaluation of Backup Servers for Longer Gaming Sessions in MANETs, DIstributed SImulation & Online gaming (DISIO 2010), Malaga, Spain, March, 2010.
- 44. Abdelhak Farsi, Nadjib Achir and Khaled Boussetta, Two-tier Wireless Mesh Networks Dimensioning, in *second IFIP Wireless Days WD 2009*, Paris, France, December 15-17, 2009.
- 45. Arnaud Kaiser, Dario Maggiorini, Nadjib Achir and Khaled Boussetta, On the Objective Evaluation of Real-Time Networked Games, in *IEEE Global Communications Conference GLOBECOM 2009*, Hawaiian Village, Honolulu, Hawaii, USA, 30 november 4 december, 2009.
- 46. Abdelhak Farsi, Nadjib Achir and Khaled Boussetta, Capacity Assignment for Multipath Routing in Multiclass Two-Tier Wireless Mesh Networks, in *5th IEEE BWA Workshop, co-located with IEEE GLOBECOM 2009*, Hawaiian Village, Honolulu, Hawaii, USA, 30 november 4 december, 2009.
- 47. Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle, Potential Field Approach to Ensure Connectivity and Differentiated Detection in WSN Deployment, in *IEEE International Conference on Communications ICC 2009*, Dresden, Germany, June 14-18, 2009.
- Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta and Bezalel Gavish, A Gradient Approach for Differentiated Wireless Sensor Network Deployment, In *first IFIP Wireless Days – WD 2008*, Dubai, United Arab Emirates, November 24-27, 2008.
- 49. Sondes Khemiri, Khaled Boussetta and Nadjib Achir, Bandwidth Partitionning for Mobile WiMax service provisioning , In *first IFIP Wireless Days WD 2008*, Dubai, United Arab Emirates, November 24-27, 2008.
- 50. Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle, Heuristic Deployment to achieve both Differentiated Detection and Connectivity in WSN, In *IEEE 67th Vehicular Technology Conference VTC 2008–Spring*, Marina Bay, Singapore, 11–14 May 2008.

- 51. Salim Benayoune, Nadjib Achir, Khaled Boussetta and Ken Chen, Content-aware ARQ for H.264 Streaming in UTRAN. in *IEEE Wireless Communication and Networking Conference WCNC 2008*, Las Vegas, Nevada, USA, 31 March 3 April 2008.
- Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, Guy Pujolle, A Tabu Search Approach for Differentiated Sensor Network Deployment, in *Fifth IEEE Consumer Communications & Networking Conference CCNC'2008*, Las Vegas, Nevada, USA, January 10–12, 2008. [Best Paper Awards]
- Khaled Boussetta, Nadjib Achir, Sondes Khemiri, A Markovien Decision Model for Optimal CAC in IEEE 802.16, in Networking and Electronic Commerce Research Conference NAEC'2007, Riva Del Garda, Italy, October 18–21, 2007.
- 54. Ahmad Sardouk, Sidi Mohammed Senouci, Nadjib Achir, Khaled Boussetta, Assessment of MANET Broadcast Schemes in the Application Context of Multiplayer Video Games, in 6th Annual Workshop on Network and Systems Support for Games, Netgames'2007, In cooperation with ACM SIGCOMM, Melbourne, Australia, Septembre 19 – 20, 2007.
- 55. Sondes Khemiri, Khaled Boussetta, Nadjib Achir, Guy Pujolle, WiMax bandwidth provisioning service to residential customers, in *the 9th IFIP/IEEE International Conference on Mobile and Wireless Communications Networks 9th IFIP/IEEE MWCN'2007*, Cork, Irlande, Septembre 19 21, 2007.
- 56. Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, Guy Pujolle, Differentiated Underwater Sensor Network Deployment, *IEEE/OES OCEANS'2007*, Scotland, Aberdeen, June 18–21, 2007.
- 57. Sondes Khemiri, Khaled Boussetta, Nadjib Achir, and Guy Pujolle. Optimal call admission control for an IEEE 802.16 wireless metropolitan area network. In Tijani Chahed and Bruno Tuffin, editors, *Network Control and Optimization, First EuroFGI International Conference, NET-COOP 2007, Avignon, France, June 5-7, 2007, Proceedings*, volume 4465 of *Lecture Notes in Computer Science*, pages 105–114. Springer, 2007
- 58. Salim Benayoune, Nadjib Achir, Khaled Boussetta, Ken Chen, A Study of H.264/AVC Robustness Over a Wireless Link, International Symposium on Signal Processing and its Applications in conjunction with the International Conference on Information Sciences, Signal Processing and its Applications, ISSPA'2007, United Arab Emirates, Sharjah, february 12–15, 2007.
- 59. Gladys Diaz, Nadjib Achir, Ken Chen, Modeling Data to Management Dynamic Services Deployment in Autonomic Networks, 2nd IEEE International Conference on Information and Communication Technologies : from theory to applications, ICTTA'2006, Syria, Damascus, april 24–28, 2006.
- 60. Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, Guy Pujolle, Underwater Sensor Network Deployment for Water Quality Monitoring, *ACM WUWNet'06 in conjunction with ACM MobiCom'2006*, Los Angeles, California, USA, september 25, 2006.
- 61. Nadjib Achir, Multi-object video error recovery over wireless networks, *Proceedings of the 1st ACM workshop on Wireless multimedia networking and performance modeling, WMuNeP 2005*, Montreal, Quebec, Canada, 2005.
- 62. Nadjib Achir, Guy Pujolle Multi-Object Rate Control, *IFIP/IEEE Network Control and Engineering for QoS Security* and Mobility, NETCON'2003, Oman, october 2003.
- 63. Nadjib Achir and Guy Pujolle Network-Based Adaptation for MPEG-4 Multicast Video Delivery, 10th IEEE International Conference on Telecommunications, ICT'2003, Papeete, Tahiti, february 2003.
- 64. Nadjib Achir, Kave Salamatian and Guy Pujolle Object-Based Unequal Loss Protection for Multi-Object Video Delivery, 4th IEEE/EURASIP Conference Focused on Video Processing and Multimedia Communications, EC-VIP-MC 2003, Croatia, Zagreb, july 2003.
- 65. Nadjib Achir, Mauro S. P. Fonseca, Mohammed Y. Ghamri Doudane, Nazim Agoulmine and G.Pujolle, Active Technology as an efficient approach to control DiffServ networks, *IFIP/IEEE In-ternational Conference on Management of Multimedia Networks and Services, MMNS 2002*, USA, University of California, Santa Barbara, october 2002.
- 66. Nadjib Achir, Mauro S. P. Fonseca, Mohammed Y. Ghamri Doudane, Nazim Agoulmine and Ahmed Mehaoua, Active Networking System Evaluation : A Practical Experience, *7th IEEE international Workshop on Mobile Multimedia Communications, MoMuC'2000*, Japon, Tokyo, october 2000.
- 67. Nazim Agoulmine, Nadjib Achir, Mauro S. P. Fonseca, Mohammed Y. Ghamri Doudane and Ahmed Mehaoua, Active Networking as an Efficient Approach to Deploy and Manage Multimedia Services, *HP Openview University Association 7th Annual Workshop, HP-OVUA'2000*, Greece, Santorini, june 2000.

#### 1.3 Livres et chapitres de livre/Books and book chapters (9)

 Nadjib Achir, and Khaled Boussetta, Video Gaming on Ad Hoc Networks: Challenges and Solutions, Handbook of Digital Games and Entertainment Technologies, pp 1-24, Springer, November 2015, (isbn: 978-981-4560-52-8), (doi: 10.1007/978-981-4560-52-8\_36-1),

- Abdelhak Farsi, Nadjib Achir, Khaled Boussetta, Gladys Diaz, and Arturo Gomez. Backhaul Topology Design and Weighted Max-Min Fair Capacity Allocation in Wireless Mesh Networks, pages 296-309. Springer Berlin Heidelberg, Berlin, Heidelberg, 2013, (isbn: 978-3-642-38227-7) (doi: 10.1007/978-3-642-38227-7\_32)
- Arturo Gomez, Gladys Diaz, Khaled Boussetta, Nadjib Achir, and Abdelhak Farsi. Adaptive Contention Window for Zone-Based Dissemination of Vehicular Traffic, pages 330–339. Springer Berlin Heidelberg, Berlin, Heidelberg, 2013, (isbn: 978-3-642-38227-7)
- Sondes Khemiri, Khaled Boussetta, Nadjib Achir, and Guy Pujolle, A Cross-Layer Radio Resource Management in WiMAX Systems, *Quality of Service and Resource Allocation in WiMAX*, InTech, Février 2012, (isbn: 978-953-307-956-1).
- Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta and Guy Pujolle, Deployment in Wireless Sensor Networks, RFID and Sensor Networks: Architectures, Protocols, Security and Integrations, Wireless Networks and Mobile Communications, Auerbach Publications, CRC Press, Taylor & Francis Group, May-2009. (isbn: 978-1-42007-777-3)
- 6. Nadjib Achir, Mauro Fonseca, Ghamri Doudane Yacine, An experimental example of active networks: the Amarrage project, chapitre du livre Autonomic Networks, Wiley, 2008. (isbn: 978-1-84821-002-8)
- 7. Nadjib Achir, Video adaptation on the Internet, Hermes editions, March 2006. (isbn: 1-9052-0947-9)
- 8. Nadjib Achir, Mauro Fonseca and Mohammed Y. Ghamri Doudane, Un exemple de réseau actifs : le projet AMAR-RAGE, Hermes editions, July 2005. (isbn: 2-7462-1134-3)
- 9. Nadjib Achir, La vidéo dans Internet, Hermes editions, December 2004. (isbn: 2-7462-1025-8)

#### 1.4 Revues nationales/National journals (1)

1. Mauro Fonseca, Nazim Agoulmine, Mohammed Y. Ghamri-Doudane, Nadjib Achir and Guy Pujolle, Une nouvelle architecture de contrôle de réseaux Diffserv basée sur la technologie réseau actif et les politiques, *Annals of telecommunications*, Volume 59, Pages 5-6, May-June 2004.

#### 1.5 Conférence nationales avec comité de lecture/Reviewed national conferences (4)

- Sondes Khemiri, Khaled Boussetta, Nadjib Achir, Guy Pujolle, Mécanismes de gestion de la bande passante pour les réseaux WiMAX, *8e Colloque Francophone de Gestion de Réseaux et de Services GRES'2007*, Hammamet, Tunisie, Novembre 6–9, 2007. [Best Paper Awards]
- Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, Guy Pujolle, Déploiement Différencié des Réseaux de Capteurs, 8e Colloque Francophone de Gestion de Réseaux et de Services GRES'2007, Hammamet, Tunisie, Novembre 6–9, 2007.
- Salim Benayoune, Nadjib Achir, Khaled Boussetta, Ken Chen, Performances des mécanismes de robustesse de H.264/AVC sur un lien sans fil, *Colloque Francophone sur l'Ingénierie des Protocoles, CFIP'2006*, Tunisie, Tozeur, 30 October–03 November 2006.
- 4. Gladys Diaz, Nadjib Achir, Ken Chen, Modèle d'information pour le déploiement dynamique de services, *7ème Colloque francophone de Gestion de Réseaux et de Services, GRES 2006*, France, Bordeaux, mai 9–12, 2006.

- [1] Nadjib Achir, Younes Bouchaala, Paul Mühlethaler, and Oyunchimeg Shagdar. Comparison of spatial aloha and CSMA using simple stochastic geometry models for 1d and 2d networks. In 23rd International Conference on Telecommunications, ICT 2016, Thessaloniki, Greece, May 16-18, 2016, pages 1–7, 2016.
- [2] Nadjib Achir, Younes Bouchaala, Paul Mühlethaler, and Oyunchimeg Shagdar. Optimisation of spatial CSMA using a simple stochastic geometry model for 1d and 2d networks. In 2016 International Wireless Communications and Mobile Computing Conference (IWCMC), Paphos, Cyprus, September 5-9, 2016, pages 558–563, 2016.
- [3] Nadjib Achir, Mérouane Debbah, and Paul Mühlethaler. Massive MIMO cooperative communications for wireless sensor networks: Throughput and energy efficiency analysis. In 25th IEEE Annual International Symposium on Personal, Indoor, and Mobile Radio Communication, PIMRC 2014, Washington DC, USA, September 2-5, 2014, pages 590–594, 2014.
- [4] Nadjib Achir, Haris Gacanin, and Otto Carlos Muniz Bandeira Duarte. Foreword to the special issue on wireless network: from home to backbone. *Telecommunication Systems*, 51(1):1–2, 2012.
- [5] Nadjib Achir and Paul Mühlethaler. Optimal sinks deployment and packet scheduling for wireless sensor networks. In 2014 IFIP Wireless Days, WD 2014, Rio de Janeiro, Brazil, November 12-14, 2014, pages 1–6, 2014.
- [6] N. Aitsaadi, N. Achir, K. Boussetta, and B. Gavish. A gradient approach for differentiated wireless sensor network deployment. In 2008 1st IFIP Wireless Days, pages 1–5, Nov 2008.
- [7] N. Aitsaadi, N. Achir, K. Boussetta, and G. Pujolle. Differentiated underwater sensor network deployment. In OCEANS 2007 - Europe, pages 1–6, June 2007.
- [8] N. Aitsaadi, N. Achir, K. Boussetta, and G. Pujolle. A tabu search approach for differentiated sensor network deployment. In 2008 5th IEEE Consumer Communications and Networking Conference, pages 163–167, Jan 2008.
- [9] Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle. Heuristic deployment to achieve both differentiated detection and connectivity in WSN. In Proceedings of the 67th IEEE Vehicular Technology Conference, VTC Spring 2008, 11-14 May 2008, Singapore, pages 123–127, 2008.
- [10] Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle. Potential field approach to ensure connectivity and differentiated detection in WSN deployment. In *Proceedings of IEEE International Conference on Communications, ICC 2009, Dresden, Germany, 14-18 June 2009*, pages 1–6, 2009.
- [11] Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle. A tabu search WSN deployment method for monitoring geographically irregular distributed events. Sensors, 9(3):1625–1643, 2009.
- [12] Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle. Multi-objective WSN deployment: Quality of monitoring, connectivity and lifetime. In *Proceedings of IEEE International Conference on Communications, ICC 2010, Cape Town, South Africa, 23-27 May 2010*, pages 1–6, 2010.
- [13] Nadjib Aitsaadi, Nadjib Achir, Khaled Boussetta, and Guy Pujolle. Artificial potential field approach in WSN deployment: Cost, qom, connectivity, and lifetime constraints. *Computer Networks*, 55(1):84–105, 2011.
- [14] Ahmed Amari, Nadjib Achir, Paul Mühlethaler, and Anis Laouiti. Optimized broadcast scheme for mobile ad hoc networks. In IEEE Wireless Communications and Networking Conference, WCNC 2014, Istanbul, Turkey, April 6-9, 2014, pages 2594–2598, 2014.
- [15] Mustapha Bekhti, Marwen Abdennebi, Nadjib Achir, and Khaled Boussetta. Path planning of unmanned aerial vehicles with terrestrial wireless network tracking. In 2016 Wireless Days, WD 2016, Toulouse, France, March 23-25, 2016, pages 1–6, 2016.
- [16] Mustapha Bekhti, Nadjib Achir, and Khaled Boussetta. Swarm of networked drones for video detection of intrusions. In Wireless Internet - 10th International Conference, WiCON 2017, Tianjin, China, December 16-17, 2017, Proceedings, pages 221–231, 2017.
- [17] Mustapha Bekhti, Nadjib Achir, Khaled Boussetta, and Marwen Abdennebi. A heuristic path planning approach for uavs integrating tracking support through terrestrial wireless networks. In Smart Objects and Technologies for Social Good - Second International Conference, GOODTECHS 2016, Venice, Italy, November 30 - December 1, 2016, Proceedings, pages 213–223, 2016.
- [18] Mustapha Bekhti, Michele Garraffa, Nadjib Achir, Khaled Boussetta, and Lucas Letocart. Assessment of multiuavs tracking for data gathering. In 13th International Wireless Communications and Mobile Computing Conference, IWCMC 2017, Valencia, Spain, June 26-30, 2017, pages 1004–1009, 2017.

- [19] Salim Benayoune, Nadjib Achir, Khaled Boussetta, and Ken Chen. A study of H.264/AVC robustness over a wireless link. In 9th International Symposium on Signal Processing and Its Applications, ISSPA 2007, Sharjah, United Arab Emirates, February 12-15, 2007, pages 1–4, 2007.
- [20] Salim Benayoune, Nadjib Achir, Khaled Boussetta, and Ken Chen. Content-aware ARQ for H.264 streaming in UTRAN. In WCNC 2008, IEEE Wireless Communications & Networking Conference, March 31 2008 - April 3 2008, Las Vegas, Nevada, USA, Conference Proceedings, pages 1956–1961, 2008.
- [21] Salim Benayoune, Nadjib Achir, Khaled Boussetta, and Ken Chen. A MAC centric cross layer approach for H.264 video streaming over HSDPA. JCM, 4(9):691–699, 2009.
- [22] Salim Benayoune, Nadjib Achir, Khaled Boussetta, and Ken Chen. A mac-level flow control algorithm for H.264/AVC video streaming over HSDPA. In Proceedings of the 6th International Wireless Communications and Mobile Computing Conference, IWCMC 2010, Caen, France, June 28 July 2, 2010, pages 1166–1171, 2010.
- [23] Younes Bouchaala, Paul Mühlethaler, and Nadjib Achir. Analysis of the IEEE 802.11 EDCF scheme for broadcast traffic: Application for vanets. In 2017 Wireless Days, Porto, Portugal, March 29-31, 2017, pages 252–257, 2017.
- [24] Younes Bouchaala, Paul Mühlethaler, Oyunchimeg Shagdar, and Nadjib Achir. Optimized spatial CSMA for vanets: A comparative study using a simple stochastic model and simulation results. In 14th IEEE Annual Consumer Communications & Networking Conference, CCNC 2017, Las Vegas, NV, USA, January 8-11, 2017, pages 293–298, 2017.
- [25] Khaled Boussetta, Arnaud Kaiser, and Nadjib Achir. Effects of packetization delay on multiplayer gaming experience over ad hoc networks. In Proceedings of the IFIP Wireless Days Conference 2011, Niagara Falls, ON, Canada, October 10-12, 2011, pages 1–6, 2011.
- [26] Raouf Boutaba, Nadjib Achir, Marc St-Hilaire, and Eduardo Freire Nakamura. Planning and deployment of wireless sensor networks. *IJDSN*, 10, 2014.
- [27] Rafael Araujo da Silva, Aldri Santos, Michele Nogueira, Khaled Boussetta, and Nadjib Achir. Avoiding collisions by time slot reduction supporting voice and video in 802.11 networks. In 2016 IEEE Global Communications Conference, GLOBECOM 2016, Washington, DC, USA, December 4-8, 2016, pages 1–6, 2016.
- [28] Abdelhak Farsi, Nadjib Achir, and Khaled Boussetta. Three-phase heuristic algorithm for wireless LAN planning. In 2012 IEEE Wireless Communications and Networking Conference, WCNC 2012, Paris, France, April 1-4, 2012, pages 2294–2299, 2012.
- [29] Abdelhak Farsi, Nadjib Achir, and Khaled Boussetta. WLAN planning: Separate and joint optimization of both access point placement and channel assignment. Annales des Télécommunications, 70(5-6):263–274, 2015.
- [30] Abdelhak Farsi, Nadjib Achir, Khaled Boussetta, Gladys Diaz, and Arturo Gomez. Backhaul topology design and weighted max-min fair capacity allocation in wireless mesh networks. In Advanced Infocomm Technology - 5th IEEE International Conference, ICAIT 2012, Paris, France, July 25-27, 2012. Revised Papers, pages 296–309, 2012.
- [31] Michele Garraffa, Mustapha Bekhti, Lucas Letocart, Nadjib Achir, and Khaled Boussetta. Drones path planning for WSN data gathering: A column generation heuristic approach. In 2018 IEEE Wireless Communications and Networking Conference, WCNC 2018, Barcelona, Spain, April 15-18, 2018, pages 1–6, 2018.
- [32] Arturo Gomez, Gladys Diaz, Khaled Boussetta, Nadjib Achir, and Abdelhak Farsi. Adaptive contention window for zone-based dissemination of vehicular traffic. In Advanced Infocomm Technology - 5th IEEE International Conference, ICAIT 2012, Paris, France, July 25-27, 2012. Revised Papers, pages 330–339, 2012.
- [33] Le Hoan, Boussetta Khaled, and Achir Nadjib. Fog computing architecture with heterogeneous internet of things technologies. 10th International Conference on Network of the Future, NoF, October 1-3, Rome, Italy, 2019.
- [34] Sadia Ingrachen, Nadjib Achir, Paul Mühlethaler, Tounsia Djamah, and Amine Berqia. A collaborative environment perception approach for vehicular ad hoc networks. In *88th IEEE Vehicular Technology Conference, VTC Fall 2018, Chicago, IL, USA, August 27-30, 2018*, pages 1–5, 2018.
- [35] Yong Jin, Hang Shen, Daniele D'Agostino, Nadjib Achir, and James Nightingale. Guest editorials: Special issue on fog/edge networking for multimedia applications. *Peer-to-Peer Networking and Applications*, 12(6):1477–1479, 2019.
- [36] Arnaud Kaiser, Nadjib Achir, and Khaled Boussetta. Multiplayer games over wireless ad hoc networks: Energy and delay analysis. In Proceedings of the International Conference on Ultra Modern Telecommunications, ICUMT 2009, 12-14 October 2009, St. Petersburg, Russia, pages 1–7, 2009.
- [37] Arnaud Kaiser, Nadjib Achir, and Khaled Boussetta. A multipath traffic balancing proposal to reduce gaming disconnections in MANET. In Proceedings of the 3rd IFIP Wireless Days Conference 2010, Venice, Italy, October 20-22, 2010, pages 1–5, 2010.

- [38] Arnaud Kaiser, Nadjib Achir, and Khaled Boussetta. Multipath traffic balancing approach for disconnection reduction in video games over mobile ad hoc networks. *Wireless Communications and Mobile Computing*, 13(3):328–342, 2013.
- [39] Arnaud Kaiser, Khaled Boussetta, and Nadjib Achir. An energy-delay routing protocol for video games over multihops ad hoc networks. In Ad Hoc Networks - Third International ICST Conference, ADHOCNETS 2011, Paris, France, September 21-23, 2011, Revised Selected Papers, pages 193–208, 2011.
- [40] Arnaud Kaiser, Dario Maggiorini, Nadjib Achir, and Khaled Boussetta. On the objective evaluation of real-time networked games. In Proceedings of the Global Communications Conference, 2009. GLOBECOM 2009, Honolulu, Hawaii, USA, 30 November - 4 December 2009, pages 1–5, 2009.
- [41] Amal Kammoun, Nabil Tabbane, Gladys Diaz, Nadjib Achir, and Abdulhalim Dandoush. Dynamic handler framework for network slices management. In 2019 International Conference on Software, Telecommunications and Computer Networks, SoftCOM 2019, Split, Croatia, September 19-21, 2019, pages 1–6, 2019.
- [42] Amal Kammoun, Nabil Tabbane, Gladys Diaz, Nadjib Achir, and Abdulhalim Dandoush. Inter-slice mobility management in the context of SDN/NFV networks. In Imen Jemili and Mohamed Mosbah, editors, Distributed Computing for Emerging Smart Networks - First International Workshop, DiCES-N 2019, Hammamet, Tunisia, October 30, 2019, Revised Selected Papers, volume 1130 of Communications in Computer and Information Science, pages 77–90. Springer, 2019.
- [43] Amal Kammoun, Nabil Tabbane, Gladys Diaz, Nadjib Achir, and Abdulhalim Dandoush. Proactive network slices management algorithm based on fuzzy logic system and support vector regression model. In Proceedings of the 14th International Conference on Broad-Band Wireless Computing, Communication and Applications, BWCCA 2019, Antwerp, Belgium, November 7-9, 2019, pages 386–397, 2019.
- [44] Amal Kammoun, Nabil Tabbane, Gladys Diaz, Abdulhalim Dandoush, and Nadjib Achir. End-to-end efficient heuristic algorithm for 5g network slicing. In 32nd IEEE International Conference on Advanced Information Networking and Applications, AINA 2018, Krakow, Poland, May 16-18, 2018, pages 386–392, 2018.
- [45] Sondes Khemiri, Khaled Boussetta, Nadjib Achir, and Guy Pujolle. Optimal call admission control for an IEEE 802.16 wireless metropolitan area network. In Tijani Chahed and Bruno Tuffin, editors, Network Control and Optimization, First EuroFGI International Conference, NET-COOP 2007, Avignon, France, June 5-7, 2007, Proceedings, volume 4465 of Lecture Notes in Computer Science, pages 105–114. Springer, 2007.
- [46] Sondes Khemiri, Khaled Boussetta, Nadjib Achir, and Guy Pujolle. Wimax bandwidth provisioning service to residential customers. In 9th IFIP International Conference on Mobile Wireless Communications Networks, MWCN 2007, Cork, Ireland, 19-21 September, 2007, pages 116–120, 2007.
- [47] Sondes Khemiri, Khaled Boussetta, Nadjib Achir, and Guy Pujolle. Mobile wimax bandwidth reservation thresholds: A heuristic approach. IJWNBT, 1(2):42–61, 2011.
- [48] Sondes Khemiri, Guy Pujolle, Khaled Boussetta, and Nadjib Achir. A combined MAC and physical resource allocation mechanism in IEEE 802.16e networks. In Proceedings of the 71st IEEE Vehicular Technology Conference, VTC Spring 2010, 16-19 May 2010, Taipei, Taiwan, pages 1–5, 2010.
- [49] Houssemeddine Mazouzi, Nadjib Achir, and Khaled Boussetta. Maximizing mobiles energy saving through tasks optimal offloading placement in two-tier cloud. In Proceedings of the 21st ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems, MSWiM 2018, Montreal, QC, Canada, October 28 -November 02, 2018, pages 137–145, 2018.
- [50] Houssemeddine Mazouzi, Nadjib Achir, and Khaled Boussetta. Dm2-ecop: An efficient computation offloading policy for multi-user multi-cloudlet mobile edge computing environment. *ACM Trans. Internet Technol.*, 19(2), April 2019.
- [51] Houssemeddine Mazouzi, Nadjib Achir, and Khaled Boussetta. Elastic offloading of multitasking applications to mobile edge computing. In Proceedings of the 22nd International ACM Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems, MSWiM 2019, Miami Beach, FL, USA, November 25-29, 2019, pages 307–314, 2019.
- [52] Houssemeddine Mazouzi, Khaled Boussetta, and Nadjib Achir. Maximizing mobiles energy saving through tasks optimal offloading placement in two-tier cloud: A theoretical and an experimental study. *Computer Communications*, 144:132 – 148, 2019.
- [53] Paul Mühlethaler, Younes Bouchaala, Oyunchimeg Shagdar, and Nadjib Achir. Evaluating the gain of directional antennas in linear vanets using stochastic geometry. In International Conference on Performance Evaluation and Modeling in Wired and Wireless Networks, PEMWN 2017, Paris, France, November 28-30, 2017, pages 1–7, 2017.
- [54] Claudio E. Palazzi, Arnaud Kaiser, Nadjib Achir, and Khaled Boussetta. A preliminary evaluation of backup servers for longer gaming sessions in manets. In 3rd International Conference on Simulation Tools and Techniques, SIMUTools '10, Malaga, Spain - March 16 - 18, 2010, page 12, 2010.

- [55] Ahmad Sardouk, Sidi-Mohammed Senouci, Nadjib Achir, and Khaled Boussetta. Assessment of MANET broadcast schemes in the application context of multiplayer video games. In *Proceedings of the 6th Workshop on Network and System Support for Games, NETGAMES 2007, Melbourne, Australia, September 19-20, 2007*, pages 55–60, 2007.
- [56] Celia Yasmine Tazibt, Nadjib Achir, Paul Mühlethaler, and Tounsia Djamah. Uav-based data gathering using an artificial potential fields approach. In 88th IEEE Vehicular Technology Conference, VTC Fall 2018, Chicago, IL, USA, August 27-30, 2018, pages 1–5, 2018.
- [57] Celia Yasmine Tazibt, Mustapha Bekhti, Tounsia Djamah, Nadjib Achir, and Khaled Boussetta. Wireless sensor network clustering for uav-based data gathering. In 2017 Wireless Days, Porto, Portugal, March 29-31, 2017, pages 245–247, 2017.