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Appointments

September 2003 - Present	Assistant Professor - HDR, Mobile Communications Department, EURECOM, Sophia-Antipolis, France
September 2002 - August 2003	Assistant Professor, University of Nice Sophia-Antipolis, France

EURECOM is a small and dynamic graduate school and research institute in communications systems created in 1991 by Telecom ParisTech and EPFL (École Polytechnique Fédérale de Lausanne) in Sophia Antipolis in the center of the Europe's leading international science park. All courses **are taught in English**. Given the international environment of EURECOM and the nature of research projects, research discussions and documents are done in English.

Education and Diploma

April 2008 **Habilitation à Diriger des Recherches (HDR)** in Computer Sciences, **From Single Radio Access Technology to Heterogeneous Wireless Networks**, University of Nice Sophia-Antipolis.

November 2002 **Ph.D.** in Computer Sciences, **Multicast Service Deployment in Heterogeneous Environments**, University of Nice Sophia-Antipolis - Institut National des Recherches en Informatique et Automatique (INRIA) Sophia-Antipolis, Planète research team. Supervisor: Dr. Walid Dabbous.

July 1999 **D.E.A.** (master degree) in Networking and Distributed Systems, the National College of Computer Sciences (Ecole Nationale des Sciences de l'Informatique - ENSI). **Ranked 1 out of 23.**

July 1998 Engineer degree in Computer Science (Networking and Distributed Systems), the National College of Computer Sciences (Ecole Nationale des Sciences de l'Informatique - ENSI). **Ranked 1 out of 93.**

July 1993 Baccalauréat **Mathematics**. **Ranked 1 out of 21.**

Current research interests

I'm interested in the design, implementation, real deployment, and experimentation of wireless communications protocols, services, and systems. In particular, I have an interest in:

- Communications for Intelligent Transport Systems (V2X communications)
- WLANs and mobile adhoc networks
- WIMAX (802.16) wireless networks
- Wireless sensor and actuator networks (SANETs)
- Wireless mesh networks (WMNs)
- Delay-Tolerant networks (DTNs)
- Cross-layer design of wireless networks
- QoS support in wireless networks
- Radio resource management of heterogeneous wireless networks
- Wireless emulation and experimentation platforms

Research and industrial projects

During the last ten years, I have been actively involved as the Principal Investigator or a contributor in several European and National research projects. For example, I'm the EURECOM's PI for one European project (called iTETRIS) in the area of wireless vehicular communications which started on July 2008 for a duration of 30 months. In the following, I give a short overview of the addressed research challenges and my contributions in each one of these projects.

- **EUROPEAN PROJECTS:**

1. **IST FP7 iTETRIS (2008-2011, <http://www.ict-itetris.org>):**

iTETRIS's objectives: iTETRIS is devoted to the development of advanced tools coupling traffic and wireless communication simulators for wireless vehicular communications. This will enable large scale computing analysis and development of adequate protocols and algorithms, overcoming the limitations of current data distribution and routing proposals; generally characterized by over simplistic wireless conditions not reflecting the realistic operational environment.

My contributions in iTETRIS: I'm contributing mainly on the development of routing and data dissemination protocols for vehicular networks as well as the integration of V2V and V2I communications. I'm the Principal Investigator of this project at EURECOM.

2. **IST FP6 Multinet (2006-2008, <http://www.ist-multinet.org>):**

Multinet's objectives: The goal of the project Multinet consists in the development and validation of an evolved Communication system that provides mobility to users in the context of mobile and wireless networks (IP based networks, in general), without modifying neither the existing network, nor the user applications, and in a transparent way to the user.

My contributions in Multinet: I'm involved on the design and the development

of the Personal Gateway which is the multi-homing router that connects to the best available wireless access networks and switches the traffic generated by the user terminals in an intelligent and efficient manner. I designed and implemented an abstraction layer to collect measurements about the characteristics of visible wireless access networks. For WLANs, I designed and developed an algorithm for the estimation of the available bandwidth which is integrated in the whole architecture.

3. **IST FP6 Chorist (2006-2009, <http://www.chorist.eu>):**

Chorist's objectives: The Chorist project aims at developing and integrating (1) a fully integrated, reliable and performing alert chain delivering alerts to authorities with inputs from heterogeneous sensors, disparate agencies and citizens; (2) heterogeneous communication means (radio, TV, sirens, GSM) to dispatch messages from authorities to as many citizens as possible within the crisis area and with limited delay; (3). secured, rapidly deployable and interoperable voice and high data-rate telecommunication systems (including ad-hoc networks) for in the field risk response teams.

My contributions in Chorist: My role in Chorist (with other EURECOM's key persons) is the design and development of QoS architecture and topology management mechanisms. The on-going proposal is a two-level hierarchical approach where the inter-cluster communications is managed at the IP layer while the intra-cluster communication is handled at the link layer. Another research topic in which I'm involved in Chorist is the design of intelligent algorithms for cluster-heads election.

4. **IST FP6 Daidalos I (2003-2006) and DaidalosII (2006-2008) <http://www.ist-daidalos.org>:**

Daidalos's objectives: This project aims at designing advanced network interfaces for the delivery and administration of location independent, optimized personal services. The Daidalos vision is to seamlessly integrate heterogeneous network technologies that allow network operators and service providers to offer new and profitable services, giving users access to a wide range of personalized voice, data, and multimedia services.

My contributions in Daidalos: I have been actively involved in these projects via the design and development of the architecture for the support of heterogeneous wireless networks presented in this dissertation. Several components and features have been proposed to this consortium and several demos in which I have been involved have been conducted.

5. **IST FP6 E2R I (2002-2005) and E2R II (2005-2007) <http://e2r2.motlabs.com/>:**

E2R's objectives: The key objective of the E2R project is to devise, develop, trial and showcase architectural design of reconfigurable devices and supporting system functions to offer an extensive set of operational choices to the users, application and service providers, operators, and regulators in the context of heterogeneous systems.

My contributions in E2R: The proposed heterogeneous wireless architecture have been extended in the framework of E2R with the GPRS/EDGE technology via the development of a Radio Access Layer (RAL) module for these technologies.

6. **IST FP6 Newcom (Network of Excellence in Wireless Communications) (2004-2007, <http://newcom.ismb.it>):**

Newcom's objectives: NEWCOM is an European network that links in a cooperative way a large number of leading research groups addressing the Strategic Objective "Mobile and wireless systems beyond 3G", a frontier research area of the Priority Thematic Area of IST.

My contributions in Newcom: I was involved in the sub-project A and department 7 of this network-of-excellence IST project. Project A emphasis on ad-hoc and sensor networks while department 7 focus on QoS support in heterogeneous wireless networks.

I established several research joint activities with some of the partners of this work-packages on the area of vehicular wireless communications (with POLITO - Italy) and joint radio resources management (with UTC - Spain). Eurecom is also a partner of Newcom++ (FP7) which constitutes the second phase of Newcom and will start on January 2008.

7. **IST FP6 Widens (Wireless Deployable Network System) (2003-2005, <http://www.comlab.hut.fi/projects/WIDENS/>):**

Widens's objectives: WIDENS was a two-year co-operative Research and Development project involving European industries and universities. The project was supported by the European Commission under the IST Framework Programme 6. It ended in January 2006. The overall objective of the Widens project was to design, prototype and validate a high data-rate, rapidly deployable and scalable wireless ad-hoc communication system for future public safety, emergency and disaster applications.

My contributions in Widens: The Widens project was the start point of the design of the Eurecom's open air interface. My contributions in this project were in the design of the Widens TDMA MAC protocol for supporting the QoS of target applications used in public safety. This protocol is under enhancements in the framework of the Chorist project.

• **FRENCH-GOVERNMENT FUNDED PROJECTS:**

1. **ANR RNRT WiNEM (WIMAX Network Engineering and Multihoming, 2007-2010):**

WiNEM's Objectives: the objective of this project is the development of new multihoming, mobility management, CAC and scheduling protocols for 802.16 (WiMAX) wireless broadband networks. WiNEM aims also at evaluating the performance of fixed and mobile WiMAX and proposing a new resources management approaches.

My contributions in WiNEM: I'm involved in the development of CAC, scheduling and intra-WiMAX mobility management mechanisms. The WiMAX QoS architecture presented in this dissertation has been conducted in the framework of this project. I'm the principal investigator in WiNEM from Eurecom's side.

2. **RNRT Airnet (Mobility and Interoperability in a Wireless Environment, 2006-2009):**

Airnet's Objectives: the objective of Airnet is to study how to conceive and to implement an interconnection infrastructure relying on wireless local networks using public license frequencies.

My contributions in Airnet: My contributions in Airnet concerns (with other Eurecom's key persons) is the design and development of a label-switching QoS architecture for multi-hop wireless networks.

3. **RNRT Rhodos (Open Hybrid Network for the Implementation of Mobile Services, 2003-2005):**

Rhodos's Objectives: this project aims to develop a heterogeneous wireless software-radio platform that supports UMTS and 802.11 standards.

My contributions in Rhodos: I was involved on the design of Joint Radio Resource Management for UMTS and 802.11 wireless networks. The proposed architecture have been integrated with a SIP (Session Initiation Protocol) agent and proxy server to allow user applications to reserve resources and to use the best available network.

4. **RNRT Dipcast (Use of satellite DVB for multicast IP, 1999-2002):**

Dipcast's Objectives: it aims to develop adaptation of multicast routing protocols to the new generation of satellite networks supporting On Board Switching (OBS) and multiple spot beams.

My contributions in Dipcast: I adapted the PIM-SM (Protocol Independent Multicast-Sparse Mode) protocol for satellite-terrestrial hybrid networks. Several modifications and optimisations of PIM-SM in the satellite segment have been proposed and integrated in the whole DIPCAST architecture.

5. **RNRT Constellation (Satellite Constellation for multimedia communications, 1999-2002):**

Constellation's Objectives: it aims to design an efficient routing and transport framework for LEO and GEO satellite systems.

My contributions in Constellation: I contributed in the optimisation of the UDLR (Unidirectional Dynamic Link Routing) standard and the optimal switching between the two modes of PIM (PIM-SM and PIM-DM).

• **INSTITUT TELECOM (EX-GET) FUNDED PROJECTS:**

- Institut TELECOM (ex-GET) - Incentive fund research projects, 2007: OPAX - Optimization and Analysis of WiMAX Networks, <http://opax.eurecom.fr>

OPAX's Objectives: The main objective of the OPAX project is the performance analysis and the development of a set of optimization algorithms for metropolitan wireless WiMAX (IEEE 802.16) networks.

My contributions in OPAX: I'm the principal investigator of this project. We evaluated the QoS metrics such as the saturation throughput, the average throughput of each class of service, the average delay, and the loss rate. This study acts as the base for the development of a new architecture for the QoS support in WiMAX which includes new scheduling algorithms for the defined classes of service and a CAC strategy. This architecture takes into account not only application-related constraints but also the status of the radio channel by exploiting measurements undertaken at the physical layer.

- Institut TELECOM (ex-GET) - Project program 2005-2008: Autonomic and Spontaneous Networks

Project's Objectives: the aim of this programme is to establish a set of joint research activities between the schools of GET in the area of spontaneous and autonomic wireless networks.

My contributions in this project: I gave a talk during the 2006 seminar organized by this program about the activities of Eurecom in the area of wireless vehicular communications. (2009).

• **OTHER INDUSTRIAL PROJECTS**

- **INRIA and Hitachi Collaboration (2001):**

Collaboration's Objectives: The aim of this collaboration was to study the scalability of multicast routing protocols over UDLR (UniDirectional Link Routing) and to design an efficient transport protocol for reliable multicast file transfer over unidirectional satellite links.

My contributions in INRIA-HITACHI 2001 collaboration: I was involved on the definition, implementation and performance evaluation of a reliable collecting mechanism in a terrestrial-satellite hybrid network.

• **REGIONAL PROJECTS:**

- **PLEXUS:** A Heterogeneous Wireless Experimentation Platform, Contrat Plan Etat Région - 2007-2013, with INRIA Sophia-Antipolis (Planète Project).

PLEXUS's Objectives: The aim of the PLEXUS is to build a heterogeneous distributed wireless platform in Sophia-Antipolis that can be remotely used by researchers to run experiments and collect measurements.

My contributions in PLEXUS: I'm the Principal Investigator of this project and I'm responsible of designing the platform and defining the wireless networks that will be integrated. To provide remotely access and use of the platform, a research work in the area of virtualization techniques and emulation tools is under going. As a first step, the platform will focus on wireless local area networks and wireless mesh networks based on the 802.11(s) standards.

Research experience

- **TECHNICAL PROGRAM COMMITTEE MEMBER**

- IWCMC 2009: International Wireless Communications and Mobile Computing Conference - Vehicular Communication Technology Workshop
- IEEE Globecom 2009 Ad Hoc, Sensor and Mesh Networking Symposium
- IEEE AINA 2010: International Conference on Advanced Information Networking and Applications - Research track on Vehicular Networks and Applications
- VehiCom 2009: The first International Workshop on Vehicular Communications
- IEEE ICC 2009 - Wireless Networking Symposium: the IEEE International Conference on Communications
- IEEE Infocom - MOVE 2008: the second MOBILE Networking for Vehicular Environments workshop
- IEEE Globecom 2008 Ad Hoc, Sensor and Mesh Networking Symposium
- IEEE Globecom 2008 Wireless Communications Symposium
- SN 2008 Workshop at ICCCN 2008: the 1st International Workshop on Sensor Networks.
- IEEE Broadnets 2008: the International Conference on Broadband Communications, Networks and Systems
- WiVEC 2007: 1st IEEE International Symposium on Wireless Vehicular Communications
- MOVE 2007: MOBILE Networking for Vehicular Environments Workshop at INFOCOM 2007
- UBIROADS 2007: First International Workshop on ITS for Ubiquitous ROADS
- IWWSN 2007: International Workshop on Wireless Sensor Networks, in conjunction with NOTERE 2007
- IEEE Globecom 2007: the IEEE Global Communications Conference
- IEEE Broadnets 2007: the International Conference on Broadband Communications, Networks and Systems
- IEEE IWQoS 2007: the 15th IEEE International Workshop on Quality of Service
- SPECTS 2007: International Symposium on Performance Evaluation of Computer and Telecommunication Systems
- IEEE PIRMC 2007: the 18th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications

- IEEE/ACM MSWiM 2006: The 9-th ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems

- **PEER REVIEWING**

- Elsevier Ad Hoc Networks, 2009.
- IEEE 69th Vehicular Technology Conference (VTC2009-Spring)
- Elsevier Physical Communication Journal (Phycom)
- IEEE Transactions on Mobile Computing, 2007
- IEEE Transactions on Wireless Communications, 2007
- IEEE Vehicular Technology Magazine, 2007
- IEEE Transactions on Intelligent Transportation Systems, 2007
- IEEE/ACM Symposium on Wireless Modeling (MSWiM), 2006
- 62nd IEEE Semiannual Vehicular Technology Conference (VTC), 2005
- IEEE Transactions on Wireless Communications, 2005
- ACM Computer Communication Review (CCR), 2005
- The 31st IEEE Conference on Local Computer Networks (LCN), 2003
- IEEE/ACM Transactions on Networking, 2002
- Fourth International Workshop on Networked Group Communication (NGC), 2002
- IEEE/IFIP Third International Conference on Management of Multimedia Networks and Services (MMNS), 2000

- **TUTORIALS**

- IEEE ICC 2009 (June 2009): Cooperative Vehicular Networking - Architecture and Protocols
- IEEE WCNC 2009 (April 2009, 70 attendees expected): Wireless Vehicular Networks: An In-Depth Overview and Research Challenge
- IEEE PIMRC 2008 (September 2008, 14 attendees): Vehicular Communications: applications, issues, proposals, and challenges
- European Wireless Conference (April 2007, more than 55 attendees): WiMAX broadband wireless networks: principles, challenges, and performance analysis

Teaching experience

- **LECTURER**

- Mobile Advanced Networks, EURECOM, Spring 2008, Spring 2009: 21 hours.
- Mobile Wireless Access technologies, Spring 2008, Spring 2009: 12 hours.
- Mobile Networking, EURECOM, Spring 2004, Spring 2005, Spring 2006, Spring 2007: 21 hours.
- Mobile applications and services, EURECOM, Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2008: 42 hours.
- IPv6 Mobility, Master of Research RSD, UNSA, Master of Research STIC on Networking and Distributed Systems, Fall 2002, Fall 2004: 12 hours.

- Advanced Wireless Networks: Master of Research STIC, RSD, UNSA, Spring 2006, Spring 2007: 16 hours.
 - Client/Server programming under Linux, Master, UNSA, DESS Telecom, Spring 2001, Spring 2002: 32 hours.
 - Multimedia communication, Master of Science, UNSA, DESS Telecom, Fall 2001, Fall 2002: 15 hours.
 - Network administration tools, Master of Science, UNSA, DESS Telecom, Spring 2001, Spring 2002: 20 hours.
- **OTHER LECTURES:** My education, teaching, and research backgrounds give me the possibility to teach other courses including (lectures and labs):
 - Internet architecture - TCP/IP networks
 - Operating Systems
 - Cellular networks
 - QoS support in communication networks
 - Sensor and actuator networks
 - Development languages: C/C++, Java, etc.
- **STUDENT PROJECTS SUPERVISED**
 1. Thibaud Alloncle, Engineer Internship, 2009: **AMOA Mobility**
 2. Vineet KUMAR, Master Internship, 2008: **VANET Network and Application Layers' Development.**
 3. Gabriele Lomuscio and Lionel Agai, EURECOM semester project, 2008: **An Advanced Driver Information and Assistance System.**
 4. Amine Kadiri, EURECOM semester project, 2008: **A Middleware for Vehicular Opportunistic Applications.**
 5. Ichrak Amdouni, Engineer Internship, ENSI, 2008: **An Architecture for Opportunistic Vehicular Wireless Communications**
 6. Fatma Hrizi, Engineer Internship, ENSI, 2008: **Optimisation de la Communication Sans-fil entre les Véhicules pour les Applications d'Alertes**
 7. Mohammad Abualghanam, Master Internship, Master of Sciences - Mobile Communications, EURECOM, 2007: **Studying and identifying end-to-end features and analysing end-to-end QoS measurements for enhancing the mobile networks' performances.**
 8. Jérémie Viel, Master Internship, Master of Management and Engineer, EURECOM, 2007: **Management of a telecom project.**
 9. Ilham Amimi, Master Internship, Master of Sciences - Mobile Communications, EURECOM, 2007: **Billing models for 3G networks.**
 10. Thomas Perrin, Spring semester project, EURECOM, 2007: **PouponDailyInfo.**
 11. Amel Satouri, Engineer Internship, ENSI, 2007: **Design and developement of a monitoring and configuration tool for heterogenous wireless networks.**
 12. Insaf Mhissen, Engineer Internship, ENSI, 2007: **Connectivity Analysis and QoS Routing in DTN Vehicular Networks.**

13. Ilham Amimi, Spring semester project, Master of Sciences - Mobile Communications, EURECOM, 2006: **A Graphical User Interface for the Mobile Terminal Controller.**
14. Jihad El Hanbali, Engineer Internship, EURECOM, 2006: **Etude d'architecture P2P SIP pour le support de services conversationnels.**
15. Sanae El-hassani, Spring semester project, Master of Sciences - Mobile Communications, EURECOM, 2006: **Performance evaluation of the wimeter bandwidth estimation technique in 802.11 WLANs.**
16. Anna-Kaisa Pietilainen and Mathias Bjorkqvist, Fall semester project, EURECOM, 2006: **Performance Evaluation of WiMAX Broadband Wireless Networks.**
17. Jihad El Hanbali, Engineer Internship, EURECOM, 2006: **Etude d'architecture P2P SIP pour le support de services conversationnels.**
18. Ikbal Msadaa, Engineer/Master Internship, ENSI, 2006: **QoS Support in WiMAX Wireless Broadband Networks.**
19. Elena De Pinto, Engineer Internship, EURECOM, 2006: **Ethernet over WDM.**
20. Andrea Huber, Engineer Internship, EURECOM, 2006: **Service-aware overlay nodes.**
21. Mahmoud Alhaj, Spring semester project, Master of Sciences - Mobile Communications, EURECOM, 2005: **Bandwidth Estimation in WLANs.**
22. Diego Ferrero, Engineer Internship, EURECOM, 2005: **Micro-mobility support in an IP-based multihop radio access network.**
23. Alain Leiggener, Engineer Internship, EURECOM, 2005: **Evaluation of path characteristics in vehicular Ad Hoc networks for highway scenarios.**
24. Perret Mikhaïl, Engineer Internship, EURECOM, 2005: **Development of multimedia mobile applications.**
25. Cédric Felices, Engineer Internship, EURECOM, 2004: **Design and developement of a GPRS GUI controller.**
26. Jean-David Suter, Engineer Internship, EURECOM, 2004: **Design and developement of 802.11 MAC layer.**
27. Lars Renfer, Engineer Internship, EURECOM, 2004: **Investigations on Mac and network layer interactions in wireless ad-hoc networks.**
28. Mohamed Bouzidi, Engineer Internship, EURECOM, 2004: **End to end service modeling messages flow.**
29. Sahbi Ganoun, Engineer Internship, ENSI, 2005: **Comparaison of routing protocols for sensor networks.**
30. Projet TE (Travaux et Etudes) Licence Informatique, UNSA, 2003: **Study and comparaison of peer-to-peer structured systems.**
31. Gion-Reto Cantieni, Engineer Internship, EPFL, 2003: **Experimentations of QoS mechanisms in WLANs.**
32. Sifelhak Benchaiba, Alioune Badara Seye, Nabil El-Aomari, Nabil Labiad, et Dan Wang, Projet DESS Télécom, UNSA, 2003: **Design and Implementation of a network monitoring application.**
33. Laurent Fazio, DEA Internship, ESSI, 2002: **Dynamic resource allocation for multicast flows.**
34. Ghassane Aniba, Engineer Internship, INPT, 2002: **Support of IP multicast in the next-generation of satellite systems.**

35. Roland Derhi, Mikaël Le Gleut, Diego Nieuwbourg, Frédérique Pont, Marc Saint-Auret, et Sébastien Sleiman, Projet TER (Travaux d'Etudes et de Recherche), UNSA, 2001: **Design and implementation of a web multicast TV server in the Internet.**
36. Wissem Kerkeni, Engineer Internship, ENSI, 2000: **Design and implementation of a graphical firewall tool for Linux.**

Ph.D. students

Ongoing Ph.D.

1. Faouzi Kaabi (started on December 2006, PACA Region and EURECOM funding, UNSA STIC Doctoral School): Cross-Layer Design of Broadband Wireless Mesh Networks.
2. Ikbal Msadaa (started on January 2007, EURECOM funding, TELECOM ParisTech Doctoral School): QoS and Mobility Management in WiMAX Networks.
3. Daniel Câmara (started on February 2007, EURECOM funding, co-supervised with Christian Bonnet, TELECOM ParisTech Doctoral School): Topology Management and QoS Provisioning in Multihop Wireless Broadband Networks.

Alumni

1. Jérôme Haerri (October 2003 - June 2007, EURECOM funding, co-supervised with C. Bonnet, EPFL Doctoral School): Modeling and Predicting Mobility in Wireless Adhoc Networks. Current position: Assistant Professor at Karlsruhe University, Germany.
2. Hamid Menouar (February 2005 - February 2008, CIFRE funding, co-supervised with Massimiliano Lenardi from Hitachi Sophia-Antipolis, TELECOM ParisTech Doctoral School): Cross-layer design of wireless protocols for Vehicle Ad hoc Networks (VANETs). Current position: Researcher at Hitachi Sophia-Antipolis Labs.
3. Muhammad Farukh Munir (October 2005 - February 2009, Pakistan Government and EURECOM funding, TELECOM ParisTech Doctoral School): Cross-layer design of wireless protocols for Sensors and Actuators Networks (SANETs).

Research publications

- **PATENTS**

- [P4] Fethi Filali, Process for estimating and controlling available resources in WiMAX wireless systems, French patent, pending.
- [P3] Christian Bonnet and Fethi Filali, A communication system for seamlessly supporting heterogeneous wireless networks, European Patent, pending.
- [P2] Fethi Filali, A communication system architecture for Intelligent Transportation Systems, European Patent, pending.
- [P1] Fethi Filali, Process for controlling the association of one mobile terminal to one particular access point belonging to one wireless network, European Patent, N. 08368005.8.

- **BOOK CHAPTERS**

- [B4] Tijani Chahed, Ikbal Msaada, Rachid Elazouzi, Fethi Filali, Salah-Eddine Elayoubi, Benoit Fourestié, Thierry Peyre, and Chadi Tarhini, WiMAX network capacity and radio resource management, Book titled "Radio Resources Management in WiMAX From theoretical capacity to system simulations", published by Hermes, ISBN: 9781848210691, February 2009.
- [B3] Daniel Câmara, Antonio A. F. Loureiro and Fethi Filali, Formal Verification of Routing Protocols: A Wireless View, Book titled "Guide to wireless mesh networks", published by Springer, ISBN: 9781848009080, January 2009.
- [B2] Daniel Câmara and Fethi Filali, Scheduling and Call Admission Control: A WiMax Mesh Networks View, Book titled "Guide to wireless mesh networks", published by Springer, ISBN: 9781848009080, January 2009.
- [B1] Fethi Filali, Hamid Menouar, and Massimiliano Lenardi, Adaptive MAC protocols in vehicular ad hoc networks: survey and analysis, Book titled "Adaptive Signal Processing in Wireless Communications" - Vol 2., published by Taylor & Francis, ISBN: 9781420045994, August 2008.

- **JOURNALS**

- [J15] Ichrak Amdouni and Fethi Filali, Measurement-based Study and Analysis of Vehicle to Internet Opportunistic Communications, submitted to an International Journal for publications, February 2009.
- [J14] Fatma Hrizi and Fethi Filali, Broadcast Protocols for Cooperative Vehicular Communications: A Survey and Taxonomy, submitted to an International Journal for publications, January 2009.
- [J13] Muhammad Farukh Muni, Arzad Alam Kherani, and Fethi Filali, Achieving Long-Term Stability in Delay-Constrained Wireless Sensor Networks, submitted to an International Journal for publications, January 2009.
- [J12] Muhammad Farukh Muni and Fethi Filali, LEAD: A Low-Energy Adaptive and Distributed Self-Organizing Framework for Sensor-Actuator Networks, submitted to an International Journal for publications, January 2009.
- [J11] Muhammad Farukh Munir, Hong Xu, and Fethi Filali, An Efficient Communication Framework for Underwater Acoustic Sensor Networks Using Passive Phase Conjugation, submitted to an International Journal for publications, January 2009.
- [J10] Daniel Câmara, Ikbal Msaada, and Fethi Filali, Scheduling and CAC in IEEE 802.16 BWNs: A Comprehensive Survey and Taxonomy, submitted after minor revisions to IEEE Tutorials and Surveys, January 2009.
- [J9] Diego Dujovne, Thierry Turletti, and Fethi Filali, A Taxonomy of IEEE 802.11 Wireless Parameters and Open Source Measurement Tools, to appear in IEEE Tutorials and Surveys journal 2009.
- [J8] Hicham Anouar, Christian Bonnet, Daniel Câmara, Fethi Filali, and Raymond Knopp, An Overview of OpenAirInterface Wireless Network Emulation Methodology, ACM SIGMETRICS Performance Evaluation Review, Volume 36, Issue 2, September 2008, pp 90-94.
- [J7] Qi Wang, Tobias Hof, Fethi Filali, Robert Atkinson, John Dunlop, Eric Robert, and Leire Aginako, QoS-Aware Network-Supported Architecture to Distribute Application Flows over Multiple Network Interfaces for B3G Users, in Proc. of Springer Journal of Wireless Personal Communications, Volume 48, Issue 1, January 2009, pp 113-140.

- [J6] Jérôme Haerri, Christian Bonnet, and Fethi Filali, Kinetic Mobility Management Applied to Vehicular Ad Hoc Network Protocols, accepted for publication in Elsevier Computer Communications, To appear in a Special Issue on Mobility Protocols for ITS VANET.
- [J5] Jérôme Haerri, Marco Fiore, Fethi Filali, and Christian Bonnet, Vehicular Mobility Simulation for VANETs, to appear in Simulation: Transactions of the Society for Modeling and Simulation International.
- [J4] Jérôme Haerri, Fethi Filali, and Christian Bonnet, Mobility Models for Vehicular Ad Hoc Networks: a Survey and Taxonomy, to appear in IEEE Tutorials and Surveys.
- [J3] Hamid Menouar, Fethi Filali and Massimiliano Lenardi, A survey and Qualitative Analysis of MAC Protocols for Vehicular Adhoc Networks, IEEE Wireless Communications, Volume 13, Issue 5, October 2006, pp 30-35.
- [J2] Fethi Filali and Walid Dabbous, Fair Bandwidth Sharing Between Unicast and Multicast Flows in Best-Effort Networks, Computer Communications - Special Issue on Quality of Future Internet, Volume 27, Issue 4, March 2004, pp 330-344.
- [J1] Fethi Filali, Ghassane Aniba, and Walid Dabbous, Efficient Support of IP Multicast in the Next-Generation of GEO Satellite, IEEE Journal on selected areas in communications, Volume 22, Issue 2, February 2004, pp 413-425.

• **CONFERENCES**

- [C55] Muhammad Farukh Munir and Fethi Filali, Multi-Hop Single-Sink Wireless Sensor Networks: Distributed Convex Optimizations, Submitted to WiOPT 2009.
- [C54] Daniel Câmara, Nikolaos Frangiadakis, Fethi Filali, A. A. F. Loureiro, and Nick Roussopoulos, Virtual access points for Disaster Scenarios, will appear in Proc. of IEEE WCNC 2009, April 2009.
- [C53] Daniel Câmara, Christian Bonnet, and Fethi Filali, Dynamic topology and communication control for highly dynamic wireless mesh networks HotMobile 09, 10th Workshop on Mobile Computing Systems and Applications, Doctoral Consortium, ACM Sigmobile, February 23-24, 2009, Santa Cruz, California, USA
- [C52] O. Lazaro, E. Robert, L. Lan, J. Gozalvez, S. Turksma, F. Filali, F. Cartolano, M. A. Urrutia, and D. Krajzewicz, iTETRIS: An Integrated Wireless and Traffic Platform for Real-Time Road Traffic Management Solutions, in Proc. of the Wireless World Research Forum, October 2008.
- [C51] Daniel Câmara, Nikolaos Frangiadakis, Fethi Filali, A.A.F Loureiro, and Nick Roussopoulos, Virtual access points for stream based traffic dissemination, in Proc. of IEEE APSCC 2008, IEEE Asia-Pacific Services Computing Conference, December 9-12, 2008, Yilan, Taiwan
- [C50] Anouar, Hicham; Bonnet, Christian; Câmara, Daniel; Filali, Fethi; Knopp, Raymond OpenAirInterface simulation platform, in Proc. of SIGMETRICS 2008, ACM international Conference on Measurement and Modeling of Computer Systems, June 2-6, 2008, Annapolis, USA.
- [C49] Muhammad Farukh Munir, Hong Xu, and Fethi Filali, Underwater Acoustic Sensor Networking Using Passive Phase Conjugation, in Proc. of IEEE ICC'2008 - Wireless Networking Symposium, May 19th-23d, 2008, Beijing, China.
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- **DEMONSTRATIONS**

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- [D3] Hamid Menouar, Fethi Filali, and Massimiliano Lenardi, DEMO - Movement Prediction-based Routing (MOPR) Concept for Position-based Routing in Vehicular Networks, WiVeC'07, the 1st IEEE International Symposium on Wireless Vehicular Communications, 30th of September - 1st of October 2007, Baltimore, USA.
- [D2] Fethi Filali, DEMO - Wimeter - a bandwidth estimation tool and its assistance to QoS Provisioning in Multiple Hot Spots WLANs, NEWCOM Technical Dissemination Day, February 17th 2007, Paris, France.
- [D1] Jérôme Haerri, Marco Fiore, Fethi Filali, and Christian Bonnet, DEMO - Vanet-MobiSim: a configurable simulator for generating realistic mobility patterns for VANETs, NEWCOM Technical Dissemination Day, February 17th 2007, Paris, France.

- **INTERNET DRAFTS**

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- **RESEARCH REPORTS**

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 - [R6] Jérôme Haerri, Fethi Filali, and Christian Bonnet, Performance testing of OLSR using mobility predictions, Research Report, RR-06-157.
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 - [R4] Jérôme Haerri, Fethi Filali, and Christian Bonnet, On the application of mobility predictions to multipoint relaying in MANETs: kinetic multipoint relays, Research Report, RR-05-148.
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- **THESIS**
 - [T4] Fethi Filali, From Single Radio Access Tehcnology to Heterogeneous Wireless Networks, Habilitation à Diriger des Recherches (HDR), University of Nice-Sophia Antipolis, Submitted on December 2007, HDR Defense expected on April 8th 2008.
 - [T3] Fethi Filali, Multicast Service Deployment in Heterogeneous Environments, PhD Thesis in Computer Sciences, University of Nice-Sophia Antipolis, INRIA Sophia-Antipolis, Planète Project, November 2002.
 - [T2] Fethi Filali, Optimization and Performance Evaluation of Hybrid Satellite-Terrestrial Networks, Master Thesis (in French), ENSI, November 1999.
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 - **UNPUBLISHED RESEARCH WORKS**
 - [U2] Fethi Filali and Walid Dabbous, Efficient PIM-SM Configuration and Adaptation for GEO Bent-Pipe Satellite Systems, November 2002.
 - [U1] Patrick Cipière, Walid Dabbous, Emmanuel Duros, and Fethi Filali, A Dynamic Routing Mechanism for UniDirectional Communication Links, January 2001.

Technical experience

- From August 1998 to June 1999: Networks and systems engineer at Trabtech Consult
- A good knowledge of UNIX operating systems: Linux, FreeBSD, AIX, HP-UNIX, and Solaris.
- Configuration and administration of network and system services: DNS, NIS, NFS, FTP, WWW, SAMBA, Sendmail, etc.
- Programming languages: shell scripts, C, C++, Symbian OS, Android, Java, J2ME, J2EE, XHTML, WML, Tcl/Tk, Perl, Pascal, ADA, etc.
- Network simulators: matlab, NS, OPNET, and SAMSON
- A good theoretical and practical background in communication networks design: analysis and optimization of Ethernet, xDSL, ISDN, and hybrid (satellite, terrestrial, and mobile) networks.
- Others: SUMO, VanetMobiSim

Developed and released Softwares

1. A radio access layer (RAL) for WLANs, 2005-2007, in C, EURECOM.
2. An abstraction layer for heterogenous wireless networks, 2005-2006, in C, EURECOM.
3. A bandwidth measurement tool for WLANs, 2004-2007, in C/C++, EURECOM.
4. GEO Satellite Integration in ns simulator, 2002, in C++ and Tcl: An extension to the ns simulator to support the new generation of satellite-terrestrial hybrid networks.
5. UDLR Integration in ns simulator, 2001, in C++ and Tcl: An implementation of UDLR Mechanism in ns simulator.
6. HyNetpt, 1999, in Java: A hybrid (satellite-terrestrial) networks design tool.
7. WanDesigner, 1998, in Java: A terrestrial networks design tool.
8. ENSIParser, 1997, in C: A network analyzer tool.

Miscellaneous

- I'm representing EURECOM in the Car 2 Car Communications Consortium.
- **Involvements in CNRS networking community's activities:** Hereafter a list of talks that I have given during the CNRS networking community's meetings:
 - QoS Provisioning in WLANs using a novel tool for available bandwidth estimation, Journées Pôle ResCom, Réunion de printemps GDR ASR CNRS, February 17th, 2006.
 - QoS Issues and Solutions in 802.11-based Networks, CNRS-GdR-ARP-StrQds, CNAM, Paris, June 4th, 2004.

- Eurecom’s recent activities on ad hoc networks, CNRS RTP01 (Réseaux), Tunis, December 16th, 2004.
- **Contributions on the Eurecom’s software-radio platform:** In the context of several national and European projects, the Mobile communications department has designed and developed an open software-radio platform for UMTS systems. Within the framework of Rhodos and Daidalos, I **redesigned** and **extended** (with the support of other colleagues) the architecture of this platform to support numerous heterogeneous wireless systems including WIFI, GPRS (EDGE), and DVB-T. In particular, I **implemented** four main components of this architecture in the Eurecom’s radio software platform namely; MTC, GRAAL, RAL-WLAN, RRM-WLAN (**about 7000 lines of C code**). The RRM-WLAN module interacts with a new tool for bandwidth measurement in WLAN called **Wimeter** which I have designed, implemented, and evaluated its performances.
- Member of IEEE and IEEE Communications Society
- Member of Car-to-Car Communications Consortium and ETSI ITS TC
- Member of Linuxazur association

Languages

Fluent in English, French, and Arabic.