

Curriculum Vitae

Mónica Aguilar Igartua

January 24th, 2019

General information

Nationality: Spanish

Gender: Female

Birth date: 6th May 1969

Current position: Associate Professor

University: Technical University of Catalonia (UPC)

Department: Telematics Engineering

Orcid: 0000-0002-6518-888X

Address: Jordi Girona 1, 08034, Barcelona, Spain

E-mail: monica.aguilar@upc.edu

WEB:

http://www-entel.upc.edu/monica.aguilar/

Phone number: +34 934015997

FAX number: +34 934011058

Professional experience

- 2001- : Associate professor at UPC.
- 1995- : Member of the Telematic Services research group at UPC (<http://sertel.upc.es/>)
- 2003-2009: First recognized six year period of researching activity
- 2012-2018: Second recognized six year period of researching activity
- 1995-2001: Assistant professor at UPC.

Research interests

Her research activity includes these topics:

- Vehicular Ad hoc Networks (VANETs), electric vehicle, autonomous vehicle, integration of VANETs and Smart Cities
- Machine learning techniques for Autonomous Vehicles
- Smart Cities, ITS (Intelligent Transportation Systems)
- Performance evaluation of multihop wireless networks, such as MANETs (Mobile Ad hoc Networks), VANETs (Vehicular Ad hoc Networks) and WSN (Wireless Sensor Networks)
- Design of routing protocols for MANETs and VANETs
- Design, analytical modelling and performance evaluation of multimedia services over heterogeneous networks
- Dynamic self-configured QoS-aware schemes to provide video-streaming services over multihop wireless networks

- Multipath routing protocols for video-streaming services over VANETs
- Game-theoretical approaches to allocate resources in constrained networks

Education

- **Degree in Telecommunications Engineering:** 15th September 2005. *Escola Tècnica Superior d'Enginyeria de Telecomunicació de Barcelona* (ETSETB).
- **PhD in Telematics Engineering:** 21st January 2000. Technical University of Catalonia (UPC)
- **Diploma in Formation of Lecturers:** 1995-1996. Technical University of Catalonia (UPC)

Teaching

- Lectures in the Degree in Telecommunications Engineering of the ETSETB:
 - Laboratory of Telematics-II (30h) (1995-2011)
 - Data Transmission (60h) (2000-2011)
 - Introduction to the Telematics Networks (39h) (2010--)
 - Evaluation of QoS over IP networks (52h) (2013--)
- Lectures in the Master of Science in Information and Communication Technologies:
 - Broadband Networks and Services (15h) (2004-2012)
- Lectures in the Master in Telematics Engineering:
 - Multihop Networks. Applications to Sensor Networks (10h) (2007-2012)
 - Evaluation of Packet Switching Networks (10h) (2009-2012)
 - Quality of Service in Networks (39h) (2013--)

Research projects (since 2010)

- MAGOS (2018-2020): Secure sMART Grid using Open Source Intelligence. Data Privacy and reliable communications. National Spanish project TEC2017-84197-C4-3-R. 79.860 euros, 13 members. Profs. Jordi Forné Muñoz, Luis J. de la Cruz Llopis
- INRISCO (2015-2017): INcident monitoRING In Smart COmmunities. QoS and Privacy. National Spanish project TEC2014-54335-C4-1-R. 52000 euros, 10 members. Prof. Mónica Aguilar
- Acciones de Dinamización "Europa Investigación" (2013-2014). Programa Estatal de I+D+i Orientada a los Retos de la Sociedad. EUIN2013-51185. 20000 euros, 3 members. Prof. Mónica Aguilar

- EMRISCO (Ayuda puente) (2013-2014): EMergency Response In Smart Communities: Privacy and QoS. National Spanish project TEC2013-47665-C4-1-R. 10000 euros, 10 members. Prof. Mónica Aguilar
- CONSEQUENCE (2010-2012): Continuity of Service, Security and QoS for Transportation Systems. National Spanish project TEC2010-20572-C02-02.
- Grup de Recerca Consolidat - Information Security Group. (September 2014). AGAUR (Agència de Gestió d'Ajuts Universitaris i de Recerca). Autonomàmic project 2014 SGR 1504, 12 members. Prof. Miquel Soriano Ibáñez.
- P2PSEC (2009-2011): SECure provision of services over P2P. National Spanish project TEC2008-06663-C03-01.

Publications (since 2010, except journals which are all included)

JCR publications

1. Isabel Victoria Martin-Faus, Luis Urquiza-Aguilar, Mónica Aguilar Igartua, Isabelle Guérin-Lassous, "Transient analysis of idle time in VANETs using Markov-reward models", *IEEE Transactions on Vehicular Technology, Connected Vehicles Series*, ISSN: 0018-9545, Vol. 12, pp. 1-13, April 2018, (IF 2016 = 4.066, Q1), DOI: 10.1109/TVT.2017.2766449.
2. C. Tripp-Barba, L. Urquiza-Aguilar, A. Zaldívar-Colado, J. Estrada-Jiménez, J. A. Aguilar-Calderón, Mónica Aguilar Igartua, "Comparison of Propagation and Packet Error Models in Vehicular Networks Performance", *Elsevier Vehicular Communications*, ISSN: 2214-2096, 12th February 2018, (IF 2016 = 5.108, Q1), DOI: 10.1016/j.vehcom.2018.02.001.
3. Cristhian Iza-Paredes, Ahmad Mohamad Mezher, Mónica Aguilar Igartua, Jordi Forné, "Game-Theoretical Design of an Adaptive Distributed Dissemination Protocol for VANETs", *Sensors*, ISSN: 1424-8220, Vol. 18, No. 1, January 2018, (IF 2016 = 2.677, Q1), DOI: 10.3390/s18010294.
4. Ahmad M. Mezher, Mónica Aguilar Igartua, "Multimedia Multimetric Map-aware Routing protocol to send video-reporting messages over VANETs in smart cities", *IEEE Transactions on Vehicular Technology, Connected Vehicles Series*, ISSN: 0018-9545, 16th June 2017 2017, (IF 2015 = 2.243, Q1), DOI: 10.1109/TVT.2017.2715719.
5. Luis Urquiza-Aguilar, Carolina Tripp-Barba, Mónica Aguilar Igartua, "A Geographical Heuristic Routing protocol", *Sensor Networks*, ISSN: 1424-8220, Open access journal, Vol. 16, Iss. 10, pp. 1567-1595, 23d September 2016, (IF 2013 = 2.048, Q1), DOI: doi:10.3390/s16101567
6. Ahmad Mohamad Mezher, Mónica Aguilar Igartua, Luis J. de la Cruz Llopis, Esteve Pallarès Segarra, Carolina Tripp-Barba, Luis Urquiza-Aguilar, Jordi Forné, Emilio Sanvicente Gargallo, "A Multi-User Game-Theoretical Multipath Routing Protocol to Send Video-Warning Messages over Mobile Ad Hoc Networks", *Sensor Networks*, ISSN: 1424-8220, Open access journal, Vol. 15, Iss. 4, pp. 9039-9077, 17th April 2015, (IF 2013 = 2.048, Q1), DOI: doi:10.3390/s150409039.
7. Luis Urquiza-Aguilar, Carolina Tripp-Barba, David Rebollo Monedero, Ahmad Mohammad Mezher, Mónica Aguilar, Jordi Forné, "Coherent and Automatic Address Resolution for Vehicular Ad Hoc Networks",

- International Journal of Ad Hoc and Ubiquitous Computing*, ISSN: 1743-8225, February 2015, (IF 2013 = 0.900, Q3), Accepted and publication pending. In press version.
8. L. Urquiza, C. Tripp, I. Martín, M. Aguilar, "Propagation and Packet Error models in VANET simulations", *IEEE Latin America Transactions*, ISSN: 1548-0992, Vol.12, No.3, pp. 499-507, May 2014, (IF 2012 = 0.218, Q4), DOI: 10.1109/TLA.2014.6827879.
 9. Andrés Vázquez Rodas, Luis J. de la Cruz Llopis, Mónica Aguilar Igartua and Emilio Sanvicente Gargallo, "Dynamic Buffer Sizing for Wireless Devices via Maximum Entropy", *Computer Communications*, ISSN: 0140-3664, Vol. 44, pp. 44-58, 15th May 2014, (IF 2011 = 1.044, Q2), DOI: 10.1016/j.comcom.2014.03.003.
 10. Carolina Tripp-Barba, Luis Urquiza Aguiar, Mónica Aguilar Igartua, David Rebollo-Monedero, Luis J. de la Cruz Llopis, Ahmad Mohamad Mezher, José Alfonso Aguilar-Calderón, "A Multimetric, Map-Aware Routing Protocol for VANETs in Urban Areas", *Sensor Networks*, ISSN: 1424-8220, Open access journal, Vol. 14, Iss. 2, pp. 2199-2224, 28th January 2014, (IF 2012 = 1.953, Q1), DOI: doi:10.3390/s140202199.
 11. Carolina Tripp-Barba, Luis Urquiza Aguiar, Mónica Aguilar Igartua, "Design and evaluation of GBSR-B, an improvement of GPSR for VANETs", *IEEE Latin America Transactions*, ISSN: 1548-0992, Vol. 11, Iss. 4, pp. 1083-1089, June 2013, (IF 2012 = 0.218, Q4), DOI: 10.1109/TLA.2013.6601753.
 12. Carolina Tripp Barba, Luis Urquiza Aguiar, Mónica Aguilar Igartua, Javier Parra-Arnau, David Rebollo-Monedero, Jordi Forné, Esteve Pallarès, "A Collaborative Protocol for Anonymous Reporting in Vehicular Ad Hoc Networks", *Computer Standards & Interfaces*, ISSN: 0920-5489, Vol. 36, Iss. 1, pp. 188-197, November 2013, (IF 2011 = 1.257, Q2), DOI: 10.1016/j.csi.2013.06.001.
 13. David Rebollo-Monedero, Jordi Forné, Esteve Pallarès, Javier Parra-Arnau, Carolina Tripp, Luis Urquiza and Mónica Aguilar, "On Collaborative Anonymous Communications in Lossy Networks", *Security and Communication Networks*, Special Issue on Security in a Completely Interconnected World, ISSN: 1939-0114, Vol. 7, pp. 2761-2777, 17th May 2013, (IF 2011 = 0.414, Q4), DOI: <http://dx.doi.org/10.1002/sec.793>.
 14. Luis J. de la Cruz Llopis, Andrés Vázquez Rodas, Emilio Sanvicente Gargallo and Mónica Aguilar Igartua, "Load Splitting in Clusters of Video Servers", *Computer Communications*, ISSN: 0140-3664, Vol. 35, Iss. 8, pp. 993-1003, 5th April 2012, (IF 2010 = 0.816, Q2), DOI: 10.1016/j.comcom.2012.02.015.
 15. M. Aguilar, L. J. de la Cruz, V. Carrascal, E. Sanvicente, "A game-theoretic multipath routing for video-streaming services over mobile Ad Hoc networks", *Computer Networks*, ISSN: 1389-1286, DOI: 10.1016/j.comnet.2011.06.007, Vol. 55, Iss. 13, pp. 2985-3000, 15th September 2011 (IF 2010 = 1.176, Q2).
 16. M. Aguilar Igartua, V. Carrascal Frías, L. J. de la Cruz Llopis, E. Sanvicente Gargallo, "Dynamic framework with adaptive contention window and multipath routing for video-streaming services over mobile ad hoc networks", *Telecommunication Systems*, ISSN: 1018-4864, Springer Netherlands, DOI: 10.1007/s11235-010-9388-x, Vol. 49, Iss. 4, pp 379-390, 2012 (IF 2008 = 0.396, Q3).

17. Mónica Aguilar, Victor Carrascal, "Self-configured multipath routing using path lifetime for video-streaming services over Ad Hoc networks", *Computer Communications*, ISSN: 0140-3664, Elsevier Science (Netherlands), DOI: 10.1016/j.comcom.2010.06.019, Vol. 33, Iss. 15, pp. 1767-1892, 15th September 2010 (IF 2008 = 0.884, Q2).
18. J. L. Muñoz, O. Esparza, M. Aguilar, V. Carrascal, J. Forné, "RDSR-V. Reliable Dynamic Source Routing for Video-Streaming over Mobile Ad Hoc Networks", *Computer Networks*, ISSN: 1389-1286, Elsevier Science (Netherlands), DOI: 10.1016/j.comnet.2009.08.015 Vol. 54, Iss. 1, pp. 79-96, January 2010 (IF 2009 = 1.201, Q2).
19. M. Aguilar-Igartua, M. Postigo-Boix, J. García-Haro, "ATM Inverse Multiplexing. Fundamentals and Markovian Single-Server Queue Analysis for Performance Evaluation and Validation Purposes", *Telecommunication Systems*, ISSN: 1018-4864, Vol. 21, No. 1, pp. 103-136, Kluwer Academic Publishers (USA), September 2002.
20. M. Postigo Boix, J. García Haro, M. Aguilar Igartua, "IMA: technical foundations, application and performance analysis", *Computer Networks*, ISSN: 1389-1286, Vol. 35, pp. 165-183, Elsevier Science (Netherlands), 16 January 2001.

Editor

1. Guest Editors: Mónica Aguilar Igartua, Francesca Cuomo and Isabelle Guérin Lassous, Special Issue on "Modeling and Performance Evaluation of Wireless Ad-Hoc Networks", *Ad Hoc Networks*, ISSN/ISBN:1570-8705, Special Issue, Volume 24, Part B, pp. 1-190 (January 2015).
2. Guest Editors: Carolina Tripp-Barba, Cristina Alcaraz, Mónica Aguilar Igartua, Special Issue on "Modeling and Performance Evaluation of Wireless Ad-Hoc Networks", *Ad Hoc Networks*, ISSN/ISBN:1570-8705, Volume 52, pp. 1-2, 1 December 2016
3. Guest Editors: Reza Malekian, Kui Wu, Kris Steenhaut, Rune Hylsberg Jacobsen, Mónica Aguilar Igartua. Special Issue on "Connected Vehicles in Intelligent Transportation Systems", *IEEE Transactions on Intelligent Transportation Systems*, ISSN 1524-9050, Vol. 19, No. 7, pp. 2301-2304, 21 June 2018.

Invited speaker

1. "Transmission of warning messages and other reports through vehicular networks in smart cities", 1st International Congress on Engineering and Natural Sciences (ICENS 2015), p. 333, 16th May 2015.

Journals

1. Luis Urquiza-Aguilar, Carolina Tripp-Barba, José Estrada-Jiménez, Mónica Aguilar Igartua, "On the Impact of Building Attenuation Models in urban VANET simulations", *Electronics*, ISSN/ISBN: 2079-9292, Special Issue, "Connected Vehicles, V2V Communications, and VANET", December 2014, DOI: 10.3390/electronics4010037.
2. Victor Carrascal Frías, G. Díaz Delgado, Aida Zavala Ayala, Mónica Aguilar Igartua, "MM-DSR: Multipath QoS routing for multiple multimedia sources over Ad Hoc mobile networks", *IEEE Latin America Transactions*, ISSN/ISBN: 1548-0992, Vol. 5, No. 6, pp. 448-456, October 2007.

3. G. Díaz Delgado, Víctor Carrascal Frías, Mónica Aguilar Igartua, "Cross-Layer Optimization for Video-streaming Transmission with QoS over Ad hoc Networks: A Holistic Approach", *Journal of Communications Software and Systems* (JCOMSS), Special issue on Cross-Layer Design for QoS Support in Wireless and Hybrid Networks, ISSN/ISBN: 1845-6421, Vol. 3, No. 3, September 2007.
4. I.V. Martín, Mónica Aguilar-Igartua, Jorge Mata-Díaz, "Design of an Adaptive-Rate Video-Streaming Service with Different Classes of Users", IFIP 5th International Conference on Network Control and Engineering for QoS, Security and Mobility (NetCon2006), ISSN/ISBN: 1571-5736, pp. 75-88, Springer, Santiago de Chile (Chile), 2006.
5. Isabel V. Martín Faus, Juan J. Alins-Delgado, Mónica Aguilar-Igartua, Jorge Mata-Díaz, "Performability analysis of an adaptive-rate video-streaming service in end-to-end QoS scenarios", *Lecture Notes in Computer Science*, 16th IFIP/IEEE distributed systems: operations and management (DSOM 2005), ISSN/ISBN: 0302-9743, Vol. 3775, pp. 157-168, Springer, Barcelona, SPAIN, October 2005.

Conferences

1. Cristhian Iza Paredes, Ahmad Mohamad Mezher, Mónica Aguilar Igartua, "Performance Comparison of H.265/HEVC, H.264/AVC and VP9 Encoders in Video Dissemination over VANETs", *The 2nd EAI International Conference on Smart Objects and Technologies for Social Good* (GoodTechs 2016), Venice, Italy, November 2016.
2. Cristhian Iza Paredes, Ahmad Mohamad Mezher, Mónica Aguilar Igartua, "Evaluating Video Dissemination in Realistic Urban Vehicular Ad-Hoc Networks", *The 19th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems* (MSWIM 2016), DOI: 10.1145/2988287.2989176, Malta, November 2016.
3. Cristhian Iza Paredes, Ahmad Mohamad Mezher, Mónica Aguilar Igartua, "Adaptive Video-streaming Dissemination in Realistic Highway Vehicular Ad-Hoc Networks", *The Thirteen ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks*, (PEWASUN 2016), DOI: 10.1145/2989293.2989301, Malta, November 2016
4. Ahmad Mohamad Mezher, Cristhian Iza Paredes, Carolina Tripp-Barba, Mónica Aguilar Igartua, "A Dynamic Multimetric Weights Distribution in a Multipath Routing protocol using Video-Streaming Services over MANETs", *XII Jornadas de Ingeniería Telemática*, (JITEL 2015), Palma de Mallorca, Spain, October 2015.
5. Cristhian Iza Paredes, Ahmad Mohamad Mezher, Mónica Aguilar Igartua, "Performance evaluation of dissemination protocols for emergency messages in Vehicular Ad-Hoc networks", *XII Jornadas de Ingeniería Telemática*, (JITEL 2015), Palma de Mallorca, Spain, October 2015.
6. Luis Urquiza-Aguilar, Daniel Almeida, Carolina Tripp-Barba, Mónica Aguilar Igartua, "Heuristic Methods in Geographical Routing Protocols for VANETs", *The 12th ACM symposium on Performance evaluation of wireless ad hoc, sensor and ubiquitous networks* (PEWASUN 2015), Cancun, Mexico, 2nd-6th November 2015.

7. Luis Urquiza-Aguiar, Carolina Tripp-Barba, A. Romero, "Reducing Duplicate Packets in Unicast VANET Communications", *The 12th ACM symposium on Performance evaluation of wireless ad hoc, sensor and ubiquitous networks (PEWASUN 2015)*, Cancun, Mexico, 2nd-6th November 2015.
8. Luis Urquiza-Aguiar, Carolina Tripp-Barba, Mónica Aguilar Igartua, J. Forné, "A Stochastic Optimization Model for the Placement of Road Site Units", In *Proceedings of the EAI International Conference on Smart Objects and Technologies for Social Good (GoodTechs 2015)*, Rome, Italy, October 2015.
9. Silvia Puglisi, Gerard Marrugat, Ángel. Torres, Mónica Aguilar Igartua, J. Forné, "MobilApp: Analysing mobility data of citizens in the metropolitan area of Barcelona", In *Proceedings of the EAI International Conference on Smart Objects and Technologies for Social Good (GoodTechs 2015)*, Rome, Italy, October 2015.
10. Luis Urquiza-Aguiar, Andrés Vázquez-Rodas, Carolina Tripp-Barba, Ahmad Mohamad Mezher, Mónica Aguilar Igartua, Luis J. de la Cruz Llopis, "Efficient Deployment of Gateways in Multi-hop Ad-hoc Wireless Networks", *The 11th ACM symposium on Performance evaluation of wireless ad hoc, sensor and ubiquitous networks (PEWASUN 2014)*, pp. 93-100, Montreal, Canada, 21st-26th September 2014, DOI: 10.1145/2653481.2653487.
11. Ahmad Mohamad Mezher, Juan Jurado Oltra, Luis Urquiza-Aguiar, Cristhian Iza Paredes, Carolina Tripp-Barba, Mónica Aguilar Igartua, "Realistic Environment for VANET Simulations to Detect the Presence of Obstacles in Vehicular Ad Hoc Networks", *The 11th ACM symposium on Performance evaluation of wireless ad hoc, sensor and ubiquitous networks (PEWASUN 2014)*, pp. 77-84, Montreal, Canada, 21st-26th September 2014. DOI: 10.1145/2653481.2653488.
12. Carolina Tripp-Barba, Luis Urquiza-Aguiar, José Estrada, José Alfonso Aguilar-Calderón, Anibal Zaldívar-Colado, and Mónica Aguilar Igartua, "Impact of Packet Error Modeling in VANET Simulations", *The 6th International Conference on Adaptive Science and Technology (ICAST 2014)*, Ota, Nigeria, 29th-31st October 2014.
13. Luis Urquiza-Aguiar, Andrés Vázquez-Rodas, Carolina Tripp-Barba, Mónica Aguilar Igartua, Luis J. de la Cruz Llopis and Emilio Sanvicente Gargallo, "MAX-MIN based Buffer Allocation for VANETs", *The 6th International Symposium on Wireless Vehicular Communications (WIVEC 2014)*, Vancouver, Canada, 14th-15th September 2014.
14. Carolina Tripp Barba, Mónica Aguilar Igartua, Luis Urquiza Aguiar, Ahmad Mohamad Mezher, Anibal Zaldívar-Colado, Isabelle Guérin-Lassous "Available Bandwidth Estimation in GPSR for VANETs", *The third ACM International Symposium on Design and Analysis of Intelligent Vehicular Networks and Applications (DIVANet 2013)*, Barcelona, Spain, 3rd-8th November 2013.
15. Estrella Garcia-Lozanoy, Carolina Tripp Barba, Mónica Aguilar Igartua, Celeste Campo, "A distributed, bandwidth-efficient accident prevention system for interurban VANETs", *The 4th IEEE International Conference on Smart Communications in Network Technologies (SaCoNet 2013)*, Paris, France, 17th-19th June 2013.
16. Carolina Tripp Barba, Ahmad Mohamad Mezher, Mónica Aguilar Igartua, Isabelle Guérin-Lassous, Cheikh Sarr, "Available Bandwidth-aware Routing in Urban Vehicular Ad-hoc Networks", *The 76th IEEE Vehicular*

Technology Conference (VTC-Fall 2012), Accepted, publication pending, Québec, Canada, 3d-6th September 2012.

17. Carolina Tripp Barba, Miguel Ángel Mateos, Pablo Regañas Soto, Ahmad Mohamad Mezher, Mónica Aguilar Igartua, "Smart city for VANETs using warning messages, traffic statistics and intelligent traffic lights", The Intelligent Vehicles Symposium (IV 2012), Alcalá de Henares, Spain, 3d-7th June 2012.
18. C. Tripp, K. Ornelas, M. Aguilar Igartua, "Performance Evaluation of a Hybrid Sensor and Vehicular Network to improve road safety", 7th ACM workshop on Performance evaluation of wireless ad hoc, sensor, and ubiquitous networks (PEWASUN 2010), pp. 71-78, ISBN: 978-1-4503-0276-0, Bodrum, Turkey, 17th-21st October 2010. DOI: 10.1145/1868589.1868604

In Spanish

1. Ahmad Mohamad Mezher, Carolina Tripp-Barba, Luis Urquiza Aguiar, Mónica Aguilar Igartua, Isabel Martin Faus, Luis J. de la Cruz, Emilio Sanvicente, "Optimized Path Selection in a Game-Theoretic Routing Protocol for Video-Streaming Services over MANETs", XI Jornadas de Ingeniería Telemática (JITEL 2013), pp. 85 - 92, Granada, Spain. 28th - 30th Oct 2013. ISBN: 978-84-616-5597-7.
2. C. Tripp, K. Ornelas, G. Díaz-Delgado, M. Aguilar Igartua, "Evaluación de prestaciones de una red híbrida vehicular y de sensores para mejorar la seguridad vial", IX Jornadas de Ingeniería Telemática (JITEL 2010), pp. 199-205, Valladolid, Spain. 29th Sep - 1st Oct 2010. ISBN: 978-84-693-5398-1. [.pdf]
3. G. Díaz-Delgado, C. Muñoz Jaime, C. Tripp, M. Aguilar Igartua, "AVISS: Aplicación Adaptativa de Streaming de Vídeo", IX Jornadas de Ingeniería Telemática (JITEL 2010), pp. 102-109, Valladolid, Spain. 29th Sep - 1st Oct 2010. ISBN: 978-84-693-5398-1. [.pdf]

Tutored PhD Thesis (since 2010)

Co-Tutored PhD Thesis

- "Modelling and transitional analysis of a Video-on-Demand Distribution System", by Isabel V. Martín Faus. Dissertation defence on 21st July 2008. *Excellent Cum Laude*.

Tutored PhD Thesis

- "Design and performance evaluation of smart dissemination of emergence messages in vehicular adhoc networks", by Christian Iza Paredes, Dissertation defence on 12th July 2018. *Excellent Cum Laude*
- "Contribution to provide video-streaming services over wireless adhoc networks in smart cities", by Ahmad Mezher, Dissertation defence on 22nd April 2016. *Excellent Cum Laude*.
- "Design of a global smart communication framework for vehicular adhoc networks in urban scenarios", by Luis Urquiza Dissertation defence on 5th April 2016. *Excellent Cum Laude*.

- "Contribution to design a communication framework for vehicular ad hoc networks in urban scenarios", by Carolina Tripp Barba, Dissertation defence on 20th June 2013. *Excellent Cum Laude*.
- "Contribution to provide QoS over Mobile Ad Hoc Networks for Video-Streaming Services based on an Adaptive Cross-Layer Architecture", by Victor Carrascal Frías. Dissertation defence on 2nd March 2009. *Excellent Cum Laude*.

Ph.D. candidates

- Leticia Lemus, " Enhancement of vehicular adhoc networks using machine learning techniques and privacy. Application to autonomous vehicles", Dissertation planned for 2020.
- Nely López, "Integration of electrical vehicles and vehicular adhoc networks in smart grid", Dissertation planned for 2020.
- Pablo Bautista Barbecho, "Integration of electrical vehicles and vehicular adhoc networks in smart cities", Dissertation planned for 2020.

Other activities (since 2010)

Member of the Editorial Board of:

- The Elsevier's Ad Hoc Networks journal (from March 2014)
- The IEEE Transactions on Multimedia (2011-2013)

Journal reviewer

- IEEE Communications Magazine
- IEEE Transactions on Vehicular Technology
- Elsevier's Ad Hoc Networks
- IEEE Communications Magazine
- IEEE Transactions on Vehicular Technology
- Computer Communications
- Computers and Electrical Engineering Journal

Organization Committee:

- III Jornadas de Ingeniería Telemática (JITEL 2001)
- IEEE Consumer Communications and Networking Conference (CCNC 2017). Special Sessions co-Chair

Co-Chair:

- The Eighth ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 2011).
- The Ninth ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor and Ubiquitous Networks (PE-WASUN 2012)

General-Chair:

- The Fifteenth ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 2018)
- The Tenth ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor and Ubiquitous Networks (PE-WASUN 2013)
- The Eleventh ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor and Ubiquitous Networks (PE-WASUN 2014)
- The Twelve ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor and Ubiquitous Networks (PE-WASUN 2015)

Vice General-Chair:

- The 16th Annual International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM 2013)

Co-Chair:

- The Eighth ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor and Ubiquitous Networks (PE-WASUN 2011)
- The Ninth ACM International Symposium on Performance Evaluation of Wireless Ad Hoc, Sensor and Ubiquitous Networks (PE-WASUN 2012)

Guest-Editor:

- Special Issue on "Modeling and Performance Evaluation of Wireless Ad-Hoc Networks", Ad Hoc Networks, January 2015.
- Special Issue on "Modeling and Performance Evaluation of Wireless Ad-Hoc Networks", Ad Hoc Networks, December 2016.
- Special Issue on "Connected vehicles in Intelligent Transportation Systems", IEEE Intelligent Transportation Systems Transactions , July 2018.

Program Committee Member

- Workshop on management of emerging networks, hold with GlobeCom 2010, 6th-10th December, Miami, Florida, USA.
- The Second International Workshop on Interconnections of Wireless Sensor Networks (IWSN 2011)
- The First International Workshop on Interconnections of Wireless Sensor Networks (IWSN 2010)
- The Third International Workshop on Interconnections of Wireless Sensor Networks (IWSN'12)
- Quinta Conferencia Colombiana de Comunicaciones 2012 (COLCOM 2012)
- Vehicular Communication Systems (VCS) track of Mosharaka International Conference on Communications, Networking and Information Technology (MIC-CNIT 2012)
- 2012 IEEE Symposium on Wireless Telecommunications Applications (ISWTA 2012)
- VI Andean Region International Conference (Andescon 2012)

- The Third International Conference on Communications and Information Technology (ICCIT-2013): Mobile and Cloud Computing
- The Fourth International Conference on Computer Applications (ICCA 2013)
- The 16th Annual International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM 2013)
- The 2013 IEEE International Conference on Internet of Things (iThings 2013)
- V Congreso Internacional de Computación y Telecomunicaciones (COMTEL 2013)
- The 5th IEEE International Workshop on Management of Emerging Networks and Services (IEEE MENS 2013)
- The 57th IEEE Global Communications Conference (IEEE GLOBECOM 2014)
- VI Congreso Internacional de Computación y Telecomunicaciones (COMTEL 2014)
- Multimedia Wireless ad hoc Networks 2014 (MWaoN 2014)
- The 17th Annual International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM 2014)
- VII Conferencia Colombiana de Comunicaciones 2014 (COLCOM 2014)
- Fourth Networking Networking Women Workshop (N2WOMEN 2014)
- Congreso Internacional de Telecomunicaciones (CIT 2014)
- The Ninth International Conference on Systems and Networks Communications (ICSNC 2014)
- The 6th IEEE International Workshop on Management of Emerging Networks and Services (IEEE MENS 2014)
- 2015 IEEE 81st Vehicular Technology Conference: VTC2015-Spring
- 2015 International Conference on Communications and Information Technology (ICCIT)
- The 58th IEEE Global Communications Conference (IEEE GLOBECOM 2015)
- The 18th Annual International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM 2015)
- The 13th International Conference on Wired and Wireless Internet Communications (WWIC 2015)
- The 13th Annual IEEE Consumer Communications & Networking Conference (CCNC 2016)
- The 25th International Conference on Computer Communication and Networks (ICCCN 2016)
- 2nd EAI International Conference on Smart Objects and Technologies for Social Good (GOODTECHS'16)
- 19th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM'16)

- 7th International Conference on Circuits, System and Simulation (ICCSS'17)
- Globecom2017 NGNI (2017 IEEE Global Communications Conference: Next-Generation Networking and Internet)
- 20th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM'17)
- 22nd IEEE International Symposium on Computer and Communications (ISCC'2017)
- Global Conference on Wireless and Optical Communications(GCWOC'17)
- The 2017 IEEE 13th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2017)
- The Third IEEE International Smart Cities Conference (ISC2 2017)
- 4th Workshop on Experiences with the Design and Implementation of Smart Objects (SMARTOBJECTS 2018)
- Emerging Advances in Technology & Applications (COMPSAC 2018)
- Global Conference on Wireless and Optical Communications (GC-WOC18)

International Collaborations

- Host professor of the Mobility Grant funded by the Spanish Government, conceded to Dr. Isabelle Guérin-Lassous, Department of Computer Science, Université Lyon I, Lyon, FRANCE, 6th to 10th June 2011.
- Invited professor in the Ecole Normal Supérieure de Lyon (ENS LYON). Research done with the professor Isabelle Guérin Lassous in the LIP (Laboratoire de l'Informatique du Parallélisme), FRANCE, 31st May 2010 to 11th June 2010.
- Host professor of the Mobility Grant funded by the Spanish Government, conceded to Dr. Isabelle Guérin-Lassous, Department of Computer Science, Université Lyon I, Lyon, FRANCE, 15th to 18th June 2010.
- Host professor of the Mobility Grant funded by the Spanish Government, conceded to Dr. Andrea Goldsmith, Department of Electrical Engineering, Stanford University, Palo Alto, California, USA, 13th to 17th July 2009.
- Host professor of the Mobility Grant funded by the Spanish Government, conceded to Dr. Isabelle Guérin-Lassous, Department of Computer Science, Université Lyon I, Lyon, FRANCE, 15th to 18th June 2009.
- Host professor of the Mobility Grant funded by the Spanish Government, conceded to Dr. Mihaela van der Shaar, EE Department, University of California Los Angeles (UCLA), Los Angeles, California, USA, 9th to 13th June 2008.
- Lectures in Networking Design, in the Master of Telematics of the Faculty of Engineering at the University of Cuenca, Ecuador. 3d-15th September 2007 (48h).
- Host professor of Dr. Isabelle Guérin-Lassous, Dr. Thomas Begin and Dr. Anthony Bussons, Department of Computer Science, Université Lyon I, Lyon, FRANCE, 22nd to 30th June 2017.

Academic responsibilities

- Header of Studies in the section of Barcelona of the Telematics Engineering Department. 2009-2012.
- Member of the Council of the Telematics Engineering Department. 2000-
- Member of the Telecommunication Engineering School at UPC. 1996-2007.
- Member of the Board of the Telematics Engineering Department. 2003-
- Member of the Academic Evaluation commission of the Telecommunication Engineering School. 2003-2004.
- Member of the Examining Board of the Doctorate Program in Electronics Engineering. 2003-2005.
- Member of the Examining Board of the Doctorate Program in Telematics Engineering. 2003-2005.
- Header of doctorate studies of telematics engineering at UPC. Sept 2001 – Oct 2003

Research Evaluations

- Member of the Examining Board of CENIT (*Consortios Estratégicos Nacionales en Investigación Técnica*) projects funded by the Spanish Government, October 2009.
- Reviewer of scientific projects for the ANEP (*Agencia Nacional de Evaluación y Prospectiva*) agency, funded by the Spanish Government. 2006-
- Reviewer of research projects of students of Secondary School, CIRIT prizes funded by the Catalan Government, AGAUR (*Agència de Gestió d'Ajuts Universitaris i de Recerca*). 2008- 2010.

Thesis examining board (holding member)

- Alejandro Martínez Sala, Departament of Information Technologies and Communications, Technical University of Cartagena (UPCT), 13th February 2006.
- Marta Solera Delgado, “Congestion control of multicast IP over IP and ATM networks. Design of reliable multicast transport protocols”, Technical University of Catalonia (UPC), 13th November 2006.
- Gerardo Gómez Paredes, “Modelling the performance evaluation of the end-to-end quality of service of streaming services over wireless networks”, University of Málaga (UMA), 8th June 2009.
- Francisco Javier González Cañete, "Study and improvement of the cache mechanisms in ad hoc wireless networks", University of Malaga (UMA). 6th March 2012.
- Antonio J. Yuste Delgado, "DESCUBRIMIENTO ADAPTATIVO DE PASARELAS EN REDES MANET CONECTADAS A INTERNET", University of Malaga (UMA). 10th April 2012. Director: Dr. Eduardo Casilari and Dr. Alicia Triviño.
- Alberto Cortés Martín, "Mejoras al aprovechamiento de dispositivos multiconectados", Universidad Carlos III de Madrid, May 2012. Director: Dr. Carlos García Rubio.

- Manuel Serrat, "COOPERATION TECHNIQUES TO IMPROVE PEER-TO-PEER WIRELESS NETWORKS SECURITY". Universitat Politècnica de València. September 2013, Co-Directors: Juan Carlos Cano, Enrique Hernández
- Pau Arce Vila, "HIERARCHICAL ROUTING AND CROSS-LAYER MECHANISMS FOR IMPROVING VIDEO STREAMING QUALITY OF SERVICE OVER MOBILE WIRELESS AD HOC NETWORKS". Universitat Politècnica de València. 4th March 2014, Director: Juan Carlos Guerri
- WILDER EDUARDO CASTELLANOS HERNÁNDEZ, "Quality of Service Routing and Mechanisms for Improving Video Streaming over Mobile Wireless Ad hoc Networks", 29 June 2015, Director: Juan Carlos Guerri
- Francisco Javier Rivas Tocado, "A methodology for obtaining More Realistic Cross-Layer QoS Measurements in mobile networks: A VoIP over LTE Use Case", Universidad de Málaga (UMA), 4th December 2015, Co-Directors: Pedro Merino & Almudena Díaz.
- Mohamed ben Khalifa, "Crowd Sensing: Applications for smart cities", Universidad de Vigo, 24th October 2016, Co-Directors: Rebeca P. Díaz-Redondo, Ana Fernández-Vilas.
- José Espino Espino, "Agentes Software Emocional para la Recuperación Automática de Sesiones de Vídeo-Streaming con Dispositivos Móviles", Universidad Las Palmas de Gran Canaria, 2nd February 2016. Co-Directors: Álvaro Suárez Sarmiento, Elsa María Macías López
- Willian Jesús Zamora Mero, "Crowdsensing solutions for urban pollution monitoring using smartphones", Universitat Politècnica de València, 5th December 2018, Director: Carlos Tavares Calafate

Professor examining board (holding member)

- Associate professor, Telematics Engineering, 24/1/2012 (BOE 16/03/2012), University of Granada, 1st June 2012.
- Associate professor, Telematics Engineering, 04F/15/TU, University of Cartagena (UPCT), 17th March 2016. Candidate: Juan José Alcaraz Espín.
- Associate professor, Telematics Engineering, DF000666, 12/06/2017 (BOE 17/04/2017), University of Carlos III of Madrid (UC3M).
- Associate professor, Telematics Engineering, 35/18/TU (BOE 21/08/2018), University of Cantabria, 29th October 2018.
- Associate professor, Telematics Engineering, 40/5/2018/TU (BOE 25/07/2018), University of Granada, 12th November 2018.

Talks

- Engineering of Quality of Service. University of Malaga (UMA). 31st October 2018. 2h