

Hugo Méric

PhD in networks and telecommunications

Last update: April 2019

Education

2009-2012	PhD in networks and telecommunications <i>Superposition coding for satellite communications</i>	Institut Supérieur de l'Aéronautique et de l'Espace
2008-2009	Master of Science <i>Stabilization of a four rotors UAV</i>	Institut Supérieur de l'Aéronautique et de l'Espace
2006-2009	Engineering school Aeronautical engineering courses with computer science majors: network, multithreaded programming, embedded system, human-computer interaction, distributed system, scheduling, etc.	Institut Supérieur de l'Aéronautique et de l'Espace

Work experience

2016-	CNES , <i>R&D engineer in telecommunications</i> Physical layer simulations and laboratory measurements	Toulouse, France
2016	ALTEN , <i>R&D engineer in telecommunications</i> Implementation of synchronization algorithms for continuous phase modulations	Toulouse, France
2013-2015	INRIA Chile / NIC Chile Research Labs , <i>postdoctoral researcher</i> Pursued research on satellite communications: theoretical study and simulations with Matlab; Investigated video transmission on error-prone channel: proposal to transmit scalable video over TCP and proof of concept using Matlab; Publications in international conferences and journals; Students monitoring	Santiago, Chile
2009-2012	Institut Supérieur de l'Aéronautique et de l'Espace , <i>doctoral researcher</i> PhD funded by CNES/Thales Alenia Space to investigate the application of superposition coding for satellite communications: theoretical study and simulations with Matlab; Publications in international conferences and journals; Teaching activities: JAVA programming and information theory	Toulouse, France
2009	NICTA , <i>intern (6 months)</i> Design and implementation of control algorithms for a four rotors uninhabited aerial vehicle using Simulink	Sydney, Australia
2008	Thales Avionics , <i>intern (3 months)</i> Improved the A400M flight management system: human-computer interaction improvement and visualization of the trajectories with Google Earth in JAVA	Toulouse, France
2007	Airbus France , <i>intern (1 month)</i> Training period in the damaged parts triage unit	Toulouse, France

Teaching experience

2010-2012	JAVA programming Basic algorithmic, object-oriented programming concepts	Institut Supérieur de l'Aéronautique et de l'Espace (cursus ENSICA) ≈80h
2010-2012	Introduction to information theory Basic concepts (entropy, mutual information, etc.), source and channel coding	ENAC ≈20h
2009-2010	JAVA programming Heritage, thread, introduction to socket programming	Institut Supérieur de l'Aéronautique et de l'Espace (cursus ENSICA) ≈20h

Publications

- Articles
- » **H. Méric** International Journal of Satellite Communications and Networking, to appear
Optimising DVB-S2 spectral efficiency with hierarchical modulation for broadband applications
 - » **H. Méric** IEEE Communications Letters, July 2015
Approaching the Gaussian channel capacity with APSK constellations
 - » **H. Méric**, J. M. Piquer and J. Lacan IEEE Electronics Letters, September 2014
Quasi-optimal grouping for broadcast systems with hierarchical modulation
 - » **H. Méric**, J. Lacan, F. Arnal, G. Lesthievant and M.L. Boucheret IEEE Transactions on Broadcasting, December 2013
Combining adaptative coding and modulation with hierarchical modulation in satcom systems
 - » H. Bui, **H. Méric**, J. Lacan and M.L. Boucheret IEEE Wireless Communications Letters, October 2012
A cooperative network coding strategy for the interference relay channel
- Conferences
- » X. Giraud, G. Lesthievant and **H. Méric** IEEE International Conference on Telecommunication, June 2018
Receiver synchronisation based on a single dummy frame for DVB-S2/S2X beam hopping systems
 - » **H. Méric** and G. Lesthievant AIAA International Communications Satellite System Conference, October 2017
On the use of dummy frames for receiver synchronisation in a DVB-S2/S2X beam hopping system
 - » A. Sanhueza, **H. Méric** and C. Estevez International Conference on Ubiquitous and Future Networks, July 2017
Efficient video streaming rate control based on a deadline-sensitive selection of SVC layers
 - » **H. Méric** and J. Lacan IEEE Wireless Telecommunications Symposium, April 2016
Capacity-approaching signals for the scalar Gaussian channel
 - » J. Bustos-Jiménez, R. Alonso, C. Faúndez and **H. Méric** IEEE Workshop on Network Measurements, September 2014
BoxingExperience: Measuring QoS and QoE of multimedia streaming using NS3, LXC and VLC
 - » **H. Méric** and J.M. Piquer IEEE International Conference on Communications, June 2014
DVB-S2 spectrum efficiency improvement with hierarchical modulation
 - » **H. Méric** and J.M. Piquer IEEE European Wireless, May 2014
Performance evaluation of bit division multiplexing combined with non-uniform QAM
 - » G. Muñoz, **H. Méric**, J.M. Piquer and J. Bustos-Jiménez IEEE Workshop on Communication and Networking Techniques for Contemporary Video, April 2014
Performance evaluation of streaming algorithms for network cameras
 - » **H. Méric**, J. Lacan, C. Amiot-Bazile, F. Arnal and M.L. Boucheret IEEE Vehicular Technology Conference, June 2013
Trade-off between spectrum efficiency and link unavailability for hierarchical modulation in DVB-S2 systems
 - » **H. Méric**, J. Lacan, F. Arnal, G. Lesthievant and M.L. Boucheret IEEE European Wireless, April 2012
Improving broadcast channel rate using hierarchical modulation
 - » T. Tran Thai, J. Lacan and **H. Méric** IEEE Future Multimedia Networking Workshop, January 2012
Error tolerance schemes for H.264/AVC: an evaluation
 - » **H. Méric**, J. Lacan, C. Amiot-Bazile, F. Arnal, M.-L. Boucheret, G. Lesthievant and Z. Faraj AIAA International Communications Satellite System Conference, November 2011
Making hierarchical modulation more flexible
 - » **H. Méric**, J. Lacan, C. Amiot-Bazile, F. Arnal and M.-L. Boucheret IEEE Wireless Telecommunications Symposium, 2011
Generic approach for hierarchical modulation performance analysis: application to DVB-SH

Research skills

System **Linux** (professional and personal), **Mac OS X** (personal use), **Windows** (personal use)
Software **Eclipse**, **Matlab**, **Simulink**

Programming **JAVA** (teaching assistant during 3 years; multiple projects during my education: games for mobile phone in 2007 and 2008, a WiFi simulator in 2008, a home planner tool in 2009, etc.), **LaTeX**(daily use to write scientific articles), **XHTML/CSS** (implementation of a personal webpage)

Languages **French** (native speaker), **English** (professional knowledge: TOEFL score 590/677, lived 7 months in Australia in 2009, scientific articles writing and presentations at conferences), **Spanish** (conversational knowledge)

Interests

Travels (+15 countries: Australia, Chile, Japan, Jordan, etc.) , **Running** (marathons and trail running) , **Hiking** (Alps, Patagonia, etc.) , **Mountaineering** (ascents of several 5000m+ summits) , **Reading** , **Sciences** , **Technology**