
## 2017

### Ayuda para la consolidación y estructuración de unidades de investigación competitivas del Sistema Universitario de Galicia. Modalidad A: Grupos de Referencia Competitiva

- **Funding Entity: Xunta de Galicia. Consellería de Cultura, Educación e Ordenación Universitaria.**
- **Beginning: 2017.**
- **End: 2019.**
- **Main Researcher: Luis Castedo Ribas.**
- **Participating Entities: UDC.**

## 2015

# UMI UDC-NAVANTIA "O estaleiro do futuro"

- **Funding Entity: Xunta de Galicia. GAIN.**

- **Beginning: 2015.**
- **End: 2018.**
- **Main Researcher: Daniel Pena Agras.**
- **Participating Entities: Universidad de A Coruña, Navantia, Xunta de Galicia.**

# 2012

Ayuda para la consolidación y estructuración de unidades de investigación competitivas del Sistema Universitario de Galicia, en la modalidad de Grupo de Referencia Competitiva

- Funding Entity: Xunta de Galicia. Consellería de

Educación.

- Beginning: 2012.
- End: 2015.
- Main Researcher: Luis Castedo Ribas .
- Participating Entities: UDC.

Ayuda para la consolidación y estructuración de unidades de investigación competitivas del Sistema Universitario de Galicia, en la modalidad de Agrupación Estratégica

- Funding Entity: Xunta de Galicia. Consellería de Educación.

- Beginning: January, 2012.
- End: December, 2013.
- Participating Entities: CITIC.

# 2010

Proyecto SVC-WIRELESS *("Scalable Video Coding over Wireless Systems")*

- Funding Entity: Xunta de Galicia. Consellería de Economía e Industria. Dirección Xeral de Investigación, Desenvolvemento e Innovación.

- Beginning: November, 2010.
- End: October, 2013.
- Main Researcher: Adriana Dapena Janeiro.
- Participating Entities: UDC.
- Description: The overall aim of this project is to investigate multimedia content coding techniques (e.g. MPEG-2, H264/AVC or SVC) and wireless MIMO system coding techniques (space-time coding, pre-coding, etc.). We will jointly optimise these techniques so as to improve the relationship between quality and transmission rates. The proposed investigation will go beyond the sphere of theoretical formulation and computer-simulated trials, including as it does the study and development of solutions in a real-world environment, using for this purpose the testbed developed by the group itself.
- Web page: SVC-Wireless

Proyecto GNUTEST: Plataformas Experimentais Baseadas en GNU Radio para Sistemas de Comunicacións e Localización

- Funding Entity: Xunta de Galicia. Consellería de Economía e Industria. Dirección Xeral de Investigación, Desenvolvemento e Innovación.

- Beginning: August, 2010.
- End: September, 2013.
- Main Researcher: Carlos J. Escudero .
- Participating Entities: CITIC.
- Description: The goal of this project is the development of an SDR architecture based on GNU Radio, to develop a series of experimental platforms. The experimental platforms will serve as a means of assessing: physical layer of a narrowband standard such as WiMAX/LTE and positioning/locating techniques based on ad-hoc systems.
- Web page: GNUTEST

# 2009

Proyecto PRECODHARQ *("Novos métodos de precodificación e HARQ para redes móbiles de próxima xeración")*

- Funding Entity: Xunta de Galicia. Consellería de Economía e Industria.

- Beginning: December, 2009
- End: December, 2012
- Main Researcher: Luis Castedo Ribas
- Participating Entities: UDC
- Description: The Next Generation Mobile Networks (NGMN) Alliance is a consortium formed in 2006 by the largest mobile operators worldwide with the aim of bringing the standardization bodies their vision about the technical requirements that mobile communication networks must have in order to cope with the challenges that the emerging applications will demand during the decade of 2010. NGMN has established that high performance radio interfaces will be needed to support transmission rates above 100 Mbits/s in the downlink and above 50 Mbits/s in the uplink, through 20 MHz channelizations. To achieve this goal various transmission methods have been developed during the last years. Two of them should be highlighted: OFDM (Orthogonal Frequency Division Multiplexing) modulation and the use of multiple antennas in

both transmission and reception, so-called MIMO (Multiple Input of English Multiple Output) technologies. The transmission system that results from combining these two technologies is termed MIMO OFDM. The objective of this project is to propose and develop new signalling methods for data transmission via MIMO OFDM systems and that can be used in next generation mobile networks. There are many issues to be addressed and among all these, we selected two: precoding techniques and Hybrid Automatic Repeat Request (HARQ) techniques.

## 2007

Ayuda del programa de consolidación y estructuración de unidades de investigación competitivas al Grupo de Tecnología Electrónica y Comunicaciones (GTEC)

- Funding Entity: Xunta de Galicia. Consellería de Educación.
- Beginning: October, 2007
- End: September, 2010
- Main Researcher: Luis Castedo Ribas

- Participating Entities: UDC
- Description: Consolidate the research lines of the GTEC and stabilize their staff not PDI to tackle succesfully training actions, fundraising and technology transfer more ambitious than those currently developed

Proyecto LOCUS *("Novos Sistemas de Localización Universal mediante Redes de Sensores Heteroxéneas")*

- Funding Entity: Xunta de Galicia. Consellería de Innovación e Industria.
- Beginning: October, 2007
- End: September, 2010
- Main Researcher: Carlos J. Escudero Cascón
- Participating Entities: UDC
- Description: The objective of this project is to study, analyze, design and develop new systems based on wireless sensor networks (WSN) for positioning proposes. To this aim, these systems will be based on communication standards. To combine the information extracted from different sensors, new algorithms will be developed in order to achieve robust and reliable estimations of a mobile device position.

# 2006

Receptores iterativos para WLAN de última generación (IEEE 802.11n)

- Funding Entity: Xunta de Galicia. Consellería de Innovación e Industria. Programa TIC del Plan Gallego de IDIT

- Beginning: October, 2006
- End: September, 2009
- Main Researcher: Luis Castedo Ribas
- Participating Entities: UDC
- Description: The objective of this project is to develop, according with the principle Turbo, new recipients schemes compatible with the IEEE 802.11n standard. The researchs are not limited to a theoretical level but an important part of the project is dedicated to building a hardware prototype demonstrator to evaluate and debug the developed algoriths in realistic scenarios.

# 2005

Incentivo al proyecto MIMESIS

- Funding Entity: Xunta de Galicia. Consellería de Innovación, Industria y Comercio.
- Beginning: October, 2005
- End: September, 2008
- Main Researcher: Luis Castedo Ribas
- Participating Entities: UDC
- Description: An incentive to the project MIMESIS (TEC2004-06451-C05-01) awarded by the Plan Nacional de I+D del Ministerio de Educación y Ciencia.

# 2004

Proyecto Moviltooth *("Sistema de información contextual para terminales móviles")*

- Funding Entity: Xunta de Galicia. Consellería de Innovación, Industria y Comercio.
- Beginning: August, 2004

- End: September, 2007
- Main Researcher: Carlos J. Escudero Cascón
- Participating Entities: UDC
- Description: Develop a new system that provides new information services to tourist, accesible from their mobile terminal, wich usually consist of a phone. These terminals have a generic software, wich can be downladed and installed in several ways: via the Internet, at the tourist offices or from their own access points. The communication system will be bluetooth, as well as being available in most phones, enables the independence of the telephone network and its use would not significantly cut the battery life due to its low consumption. Communication based on this standard does not require licenses for the operation of the radio spectrum due to it works in a free frequency band (ISM), thus allowing a free transfer.