

**Máster Universitario de Investigación en TIC**  
**Universidad de Valladolid**  
**Conferencias de introducción a las especialidades**

**Fecha:** martes, 21 de febrero de 2017

**Hora:** 18:00-20:00

**Lugar:** Aula 9, Edificio TIC, Campus Miguel Delibes

**Título:** GreenIT: Fundamental trade-offs, progresses and impacts on networks

**Ponente:** Manuel Fernández Veiga, profesor titular de Universidad, Universidad de Vigo

***Resumen***

The amount of energy consumed by the communications infrastructure has become in the last years a fundamental design criterion for future networks, not only for theoretical interest but also for the sustainable development of wired & wireless communications, which currently need substantial amounts of power to operate. Along with the exponential growth of data traffic, next generation networks will also carry massive machine-to-machine (M2M) and people-to-machine information, so the network power consumption poses technical challenges for architecting and managing the traffic load.

In this talk, the fundamental green trade-offs underlying the relationships among energy, rate and delay will be presented both for wired and wireless networks. We will focus on recent research results and candidate technologies for designing and operating future communication systems, (e.g., datacenter interconnection networks, 5G wireless networks) in an energy-efficient way, review the impact of energy-efficiency constraints on network performance, and finally discuss some open issues and research challenges in this area.

***Breve CV***

Manuel Fernández Veiga es profesor del Departamento de Ingeniería Telemática de la Universidad de Vigo, afiliado al Laboratorio de Redes y a AtlantTIC. Sus área de interés son la teoría de la comunicación, la optimización y la ingeniería de redes, campos en los que ha publicado alrededor de 40 artículos en revistas científico-técnicas. Es IEEE Senior Member (2011) e imparte regularmente cursos de teoría de información, redes de ordenadores e ingeniería de Internet en Uvigo.