

## Research Lines

The TEISA Department was founded in 1996 as the result of the division of the now extinted Electronics Department at the University of Cantabria. Since then, the main research areas are developed within the different departamental groups, being summarized as follows:

### Automation and Maritime Robotics Group

Advanced modelling and control  
Seacraft vehicles control and guide  
Naval automation  
Industrial electronics control

### Control Engineering Group

Application of ultrasonic techniques for automation  
Advanced control systems  
Process control with programmable automata

### Photonics Engineering Group

Optic communication systems  
Fiber optics sensors  
Microwave optic interactions  
Devices for optical communication systems

### Microelectronics Engineering Group

## **Research lines**

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Design of ASIC circuits for industrial applications

Testable design and test of digital and mixed digital-analog circuits

Design and verification of electronic systems

Training for postgraduate students in Microelectronics

## **Biomedical Engineering Group**

Fiber optic devices and networks

Non linear effects

Optical reflectometry, interferometry, polarimetry and spectroscopy

Optical techniques for structural characterization and treatment of biologic tissue

Fiber optic endoscopes and probes for biomedical applications

Optical techniques for molecular characterization of biological tissue

Radio over fiber optics

Optical techniques for surgery applications

Each of these research areas produce numerous research works, whether in international forums or in specialized publications and proceedings, as well as the participation in several I+D projects. You can have a look at the publications and research sections for more detailed information.