CONNECTED AND AUTONOMOUS DRIVING

UNIVERSIDAD POLITÉCNICA DE MADRID

POLITÉCNICA

UPM INTERNATIONAL SUMMER SCHOOL ANGLOTECH

This course aims to provide an overview of the current state of autonomous vehicles and the key technological pillars that underpin this field such as positioning, environmental perception and inter-vehicle communications systems.

> **ECTS credits: 1**

> **Dates: 28 June to 2 July 2021**

■ **Recommended background knowledge for students:**

- Basic engineering concepts

LEARNING GOALS

■ **Gain**

Overview of current state, technology and future prospects

Autonomous and Connected Driving

SYLLABUS

- Autonomous driving and architecture of autonomous vehicles
- Positioning systems and digital maps
- Detecting the scenario around the vehicle
- Decision making in autonomous vehicles
- Communications for connected driving. V2X communications
- Industry talk: Planning Connected and Automated Vehicles

Meet Our
INSTRUCTORS

Felipe Jiménez is full professor at Universidad Politécnica de Madrid in the area of vehicles and transport, and Deputy Director for Research and Head of the Intelligent Systems Unit at INSIA-UPM, the Institute for Automobile Research. He received his PhD in Mechanical Engineering from the UPM in 2006. He leads several national and international research projects in the field of intelligent transport systems, connected and autonomous driving and assistance systems. He has authored or co-authored books, book chapters and journal papers. He has participated in many national and international committees and has received many awards for his research activity over the last 20 years.

José Eugenio Naranjo is associate professor at the School of Computer Science. He received his PhD in Computer Science from UPM in 2005. From 1999 to 2007, he was a member of the Spanish National Research Council (CSIC) Autopia Group. His research interests include artificial intelligence, V2X communications, C-ITS, usability and accessibility and CCAD. Dr. Naranjo is also a member of scientific and editorial boards and acts associate editor of IEEE Transactions on ITS. He is a member of the organizing committees of the leading sector conferences, like IEEE Intelligent Vehicle Symposium and IEEE Intelligent Transportation Systems, and serves as Vice President of the Spanish Chapter IEEE ITS Society.

Meet Our
INDUSTRY SPEAKER

Cecilia Medina holds an MA in Political Science and Sociology, an MA in Foreign Trade and International Relations and is a specialist in promotion and management of international R&D projects. She has been working at the Spanish Association of Automotive Suppliers —SERNAUTO— since 2006. As RTD and Training Manager with experience as a leader of the Dissemination and Training Work Packages of European and national projects (FP6-FP7-H2020) projects, she acts as coordinator of the Spanish Automotive and Mobility Technological Platform – M2F— developing the national automotive sector R&D&i strategy. She is the Spanish representative on the European Road Transport Research Advisory Council (ERTRAC).