DYVERSE represents a fresh perspective within the theory of hybrid systems and complex dynamical systems, and provides new insights into the modeling, analysis and control of systems with discontinuous and complex behaviours.

DYVERSE is a computational dynamical framework for hybrid systems, but what is a hybrid system? The term itself is confusing and broad, and can be used for any system consisting of elements of a different nature. From the dynamical viewpoint, a hybrid dynamical system integrates continuous-type and discrete-type event dynamics. DYVERSE should be understood as a catalyst of formal computational tools, dynamical systems and theory and control methodologies - which in turn gives rise to novel models, behaviour analysis tools and control schemes.

In this talk, we will explore how all these theories can be combined and applied to a wide range of applications: from engineering to neuroscience. I will sum up some of my recent results in the new field that I have defined as hybrid systems neuroscience.

Eva Navarro López has three degrees in computing, electronics and physical systems. From 2006 to 2008, she held a Ramon y Cajal fellowship for outstanding international researchers from the Spanish Government. Since 2008, she has worked at Manchester University, headed 5 projects and working in more than 22 projects and consultancies. She is one of the founding members of ACM-Women Europe, and the founder of the womENcourage conference series in Europe. Eva’s work has been acknowledged by high profile appearances in the Spanish and British press and media.

Short Bio