Monday morning, 16 June 2025

9:00 – 9:30 **Registration**

Aula Magna

9:30 – 9:50 **Opening and Welcome**

9:50 – 10:50 **A. Bermúdez**
Application of Stochastic control to some energy managment problems

10:50 – 11:20 **Coffee Break**

	Aula 8 (A. Blasco)	Aula 9 (J. Giné)	Aula 10 (E. Gaburro)
11:20 – 11:45	**F.A. Tojo** *Compactification techniques for analyzing asymptotic behavior in partial differential equations*	**D. Noriega** *Exploring dynamics in FitzHugh-Nagumo systems*	**M. Gómez-Mármol** *Numerical resolution of some stiff problem*
11:45 – 12:10	**E. Henriques** *Regularity Results on Anisotropic PDEs*	**A. G. López** *Quantum-like behavior of an active particle*	**I. Martínez** *Pure-Lagrangian methods for multiphysics simulation of electric upsetting processes*
12:10 – 12:35	**J. Rodríguez-López** *On existence and localization of solutions for nonlinear systems*	**R. Martínez-Vergara** *Non-smooth saddle-node bifurcations for a family of piecewise-linear and quasiperiodically forced maps*	**M. Suárez-Vázquez** *Integrating urban CFD wind simulations with meteorological predictions*
12:35 – 12:50	**Á Aguilar-Reyes** *Remarks on exponential attractors for a non-autonomous PDE with H^{-1}-valued forces*	**J. Ait Idir** *Mathematical modeling of phage-bacteria dynamics in vitro:quasineutral manifolds and bifurcations*	**M.C. Navarro** *Moist convective vortices: intensification by condensation*

13:00 – 15:00 **Lunch**

Monday afternoon, 16 June 2025

Aula Magna

15:00 – 16:00 **M. Ollé**
A naïve approach to splitting separatrices in the CP problem

Aula 8 (S. Junquera)

16:05 – 16:30 **J.Á. Cid**
Dispersal effect in a periodic discrete two-patch model

16:30 – 16:55 **D.M. Escala**
Finite-size effects in the scaling of $A + B \to C$ reaction fronts

Aula 9 (M. Ollé)

D. Scarcella
Chaotic motions to L4 in the restricted circular planar three-body problem

L. Peterson
Computer-assisted proofs for subharmonic Melnikov functions with applications to the Earth-Moon-Particle system

Aula 10 (N. Bazarra)

S. Paramés-Estévez
Thermoregulated organ-on-a-chip via magnetic hyperthermia

M. Gómez-Méndez
Numerical study of wave reflection in the aortic artery

16:55 – 17:25 **Coffee Break**

Aula 8 (S. Junquera)

17:25 – 17:50 **P. F. Garrido**
Emerging navigation behaviors in a VR city: insights from a cognitive intervention in a twin cohort

17:50 – 18:15 **M. Saavedra**
Exploring spatiotemporal traffic dynamics in 25 cities via transfer entropy–driven causal networks

Aula 9 (B. Nicolás)

J. Gimeno
Tree-Based approaches for globalizing invariant manifolds in dynamical systems

L. Martin Witkowski
Computation and stability analysis of periodic orbits using finite differences, Fourier or Chebyshev spectral expansions in time

Aula 10 (J.J. Mazo)

I. Arán-Tapia
Magnetohydrodynamic effects on the human endolymphatic fluid: a cause of dizziness in MRI

R. Dapena-García
Study of particle dynamics in a constricted artery using the Lattice-Boltzmann method

19:10 – ... **Welcome reception** (Praza do Obradoiro)

Tuesday morning, 17 June 2025

Aula Magna

9:10 – 10:10 **J. Mawhin**
Two-ppoint boundary value problems and homoclinic solutions for systems of second order differential equations

Aula 8 (J.Á. Cid)

10:15 – 10:40 **N. Khalil**
Quiescent states of a granular fluid in an external potential

10:40 – 11:05 **I. Gutiérrez-Sagredo**
Poisson-Lie groups and dynamics of nonlinear Hamiltonian dynamical systems

Aula 9 (M. Gonchenko)

S. Barbieri
Existence and nonexistence on invariant curves of coin billiards

R. Capeáns
Two-player game in a chaotic dynamical system

Aula 10 (M.C. Navarro)

J.J. Mazo
Plowing induced ripple formation in compliant materials

N. Bazarra
Stability to double Timoshenko thermoelastic beam

11:05 – 11:35 Coffee Break

Aula 8 (J.Á. Cid)

11:35 – 12:00 **D. Mellado Alcedo**
Stability of nonlinear Dirac solitons under the action of external potentials

12:00 – 12:25 **A.P. Márquez**
New conserved quantities and modern symmetry analysis applied to a dissipative Westervelt's equation

12:25 – 12:50 **A. Biasi**
Energy cascades and condensation via solvable Hamiltonian systems

Aula 9 (S. Barbieri)

M. Gonchenko
Bifurcations of symmetric p:q resonant orbits

J. Giné
The expansion of the Poincaré map at monodromic singularities with inverse integrating factor

A. Daza
Chaotic dynamics of branched flows

Aula 10 (M. Ruíz-Villlarreal)

D. Martínez-Martínez
Implicit Schwarz domain decomposition method with Legendre collocation for a Rayleigh-Bénard problem

M. Picos
Advanced Numerical Methods for DED AM Simulation: Multi-scale Domain Decomposition and Moving Meshes

H. Varela
A stabilized numerical method for the Darcy-Forchheimer model

13:00 – 15:00 Lunch

Tuesday afternoon, 17 June 2025

	Aula 8 (L. López-Somoza)	Aula 9 (A.J. Soares)	Aula 10 (J. Gimeno)
15:00 – 15:25	**D. Cao Labora** *The phenomenon of Borwein integrals from the perspective of Complex Analysis: classical and new identities*	**A.M. Portillo** *Modelling telomeres in stem cell populations*	**C. Arranz-Simón** *High-order rational methods for reaction-diffusion problems*
15:25 – 15:50	**A. Blasco** *Generalized quantum Zernike Hamiltonians: an algebraic approach to the spectrum*	**M. Stich** *Symmetry breaking and oscillations in simple models for polymerisation*	**P. P. Forrier** *A study of the Taylor coefficients of stiff ODEs*
15:50 – 16:40	Poster coffee		
		Aula 9 (A. Fariña)	Aula 10 (I. Gómez-Bueno)
16:40 – 17:05		**J.M. López** *Lyapunov vectors as optimal paths in random media*	**C. Caballero-Cárdenas** *A semi-implicit fully exactly well-balanced relaxation scheme for the two-layer shallow water system*
17:05 – 17:30		**R. Gutiérrez** *Nonequilibrium criticality in the dynamics of synchronization in one dimension*	**F. Pla** *An alternating Schwarz domain decomposition method applied to the Rayleigh-Bénard convection problem*
20:00 – ...	Conference dinner (Hotel Palacio del Carmen)		

Wednesday morning, 18 June 2025

Aula Magna

9:10 – 10:10 **E. Gaburro**
High order structure preserving Lagrangian schemes for the solution of hyperbolic equations on moving Voronoi-like meshes with topology changes

Aula 8 (J. Rodríguez-López)

10:15 – 10:40 **I. Baena Jiménez**
Information and dispersion measures for an oscillator of non-constant curvature

10:40 – 11:05 **P. Cambeses-Franco**
Equations with reflection and piecewise constant dependence

Aula 9 (J. Campos)

A. Paredes Vázquez
Modeling Microbial Interactions with Generalized Lotka-Volterra Equations: Identification Challenges

A.J. Soares
Analysis and simulations of a time-delayed model for tumor-immune system interactions

Aula 10 (F. Pla)

I. Gómez-Bueno
Well-balanced POD reduced-order models for nonlinear systems of PDEs

A. Crespo-Otero
Global climatology of precipitation sources in atmospheric rivers using a Lagrangian approach

11:05 – 11:35 **Coffee Break**

Aula 8 (J. Rodríguez-López)

11:35 – 12:00 **L. López-Somoza**
Fourth order problem with functional perturbed clamped beam boundary conditions

12:00 – 12:25 **S. Junquera**
The phenomenon of quenching in a system with non-local diffusion

12:25 – 12:50 **M. Yousfi**
Existence of solutions of nonlinear systems coupled to linear non-local boundary conditions

Aula 9 (A. Daza)

J. Campos
The shape of an epidemic wave

L. Franco-Pérez
The Spread of Two Serotypes of Vector-Borne Diseases in the Human Population

J. López-Pedrares
Optimal control applied to viral competition

Aula 10 (M. Gómez-Mármol)

S. González-Pérez
Using Lagrangian Coherent Structures to assess the impact of freshwater fronts in the Toconao pellet spill

M. Agaoglou
Uncertainty quantification and the method of Lagrangian descriptors

M. Ruiz-Villarreal
A Lagrangian IBM model for modelling Early Life Stages of different fish and cephalopod species

12:50 – 11:00 **Closing**

13:00 – 15:00 **Lunch**