

Non linear and non local problems: from the theory to the applications

Universidad Complutense de Madrid,
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$$\frac{d^n}{dt^n} \frac{1}{\Gamma(n-\alpha)} \int_0^t u(\tau)(t-\tau)^{n-\alpha-1} d\tau, \quad t > 0, \alpha \in \mathbb{R}, n = [\alpha]$$

ORGANIZING COMMITTEE: J.I. Díaz, T. Pierantozzi, L. Vázquez

<http://www.mat.ucm.es/imi/curso0708/NLNL08.htm>

LECTURES:

- * N. Alibaud. Institut de Mathématiques et de Modélisation de Montpellier, France.
"A non-local perturbation of first order Hamilton-Jacobi equations with unbounded data".
- * S. Bonaccorsi. Università di Trento, Italy.
"Volterra integro-differential equations with completely monotone kernels".
- * D. Cordoba. IMAFF-Instituto de Matemática Aplicada y Física Fundamental, CSIC, Spain.
"On the existence of solutions of the surface quasi-geostrophic equation".
- * E. Cuesta. Universidad de Valladolid, Spain.
"Runge-Kutta convolution quadrature methods for well-posed equations with memory".
- * J.I. Díaz. Universidad Complutense de Madrid, Spain.
"Global controls to stabilize the chemical turbulence: a non local complex Ginzburg-Landau equation".
- * Q. Feng. Chinese Academy of Sciences, China.
"Implementing arbitrarily high-order symplectic methods via Krylov deferred correction technique".
- * H. Gómez Díaz. University of Texas at Austin, USA, and Universidad de A. Coruña, Spain.
"Non-local phase-field models in science and engineering: from the Cahn-Hilliard equation to strain-gradient in hyperelasticity".
- * Y. Jiao. Chinese Academy of Sciences, China.
"Conjugate Symplecticity of Multi-Step Methods".
- * J. M. Mazón. Universitat de Valencia, Spain.
"The limit as $p \rightarrow \infty$ in a nonlocal p -Laplacian evolution equation. A nonlocal approximation of a model for sand piles".
- * S. F. Padial. Universidad Politécnica de Madrid, Spain.
"Some non local problems arising in the mathematical modelling of the nuclear fusion".
- * T. Pierantozzi. Universidad Complutense de Madrid, Spain.
"On the finite time extinction phenomenon for some non linear fractional evolution equations".
- * S. Salsa. Politecnico di Milano, Italy.
"Obstacle problem for the fractional Laplacian".
- * Y. Tang. Chinese Academy of Sciences, China.
"Symmetric hamiltonian algorithms with application to nonlinear Schroedinger system".
- * J. Trujillo. Universidad de La Laguna, Tenerife, Spain.
"On fast fractional Fourier transform and open problems".
- * D. Usero. Universidad Complutense de Madrid, Spain.
"Non local model for non linear dark solitary waves".
- * L. Vázquez. Universidad Complutense de Madrid, Spain.
"From the nonlocal problems to fractional differential equations".
- * R. Vilela Mendes. Technical University Lisbon, Portugal.
"Stochastic solutions of nonlinear partial differential equations".
- * B. Vinagre. Universidad de Extremadura, Spain.
"Some challenges in modelling and control of fractional dynamic systems. An engineering approach".
- * G. Zaslavsky. Courant Institute, New York University, New York, USA.
"Origin of fractional dynamics in systems with long-range memory and interaction".

