

CURRICULUM VITAE

Ignat, Ioan Liviu

Date of birth: 17.06.1978
Nationality: Romanian
Phone: (34) 636820053
E-mail: liviu.ignat@uam.es



1. Academics

- Ph.D. in Mathematics, Universidad Autónoma de Madrid, September 15, 2006.
- Bachelor degree, Universidad de Craiova, Romania, July, 2001.

2. Work Experience

- Assistant Professor, Universidad Autónoma de Madrid, from 01/04/2006.
- Researcher, Institute of Mathematics of the Romanian Academy, from 01/07/2006.
- Assistant Professor, Universitatea din Craiova, Romania, 01/03/2004-30/06/2006.

3. Publications

Published papers

1. **Ignat, I.L.**, Global Strichartz estimates for approximations of the Schrödinger equation, Asymptotic Analysis, Vol. 52, No. 1-2 (2007), 37-51.
2. **Ignat, I.L.**, Fully discrete schemes for the Schrödinger equation: Dispersive properties, Mathematical Models & Methods in Applied Science, Vol. 17, No. 4 (2007) 567-591.
3. **Ignat, I.L.**, Qualitative properties of a numerical scheme for the heat equation, Proceedings of ENUMATH 2005, Numerical Mathematics and Advanced Applications, A. Bermudez de Castro et al. eds, Springer Verlag, p. 593-600, 2006, ISBN 3-540-34287-7.
4. **Ignat, I.L., Zuazua E.**, Dispersive Properties of Numerical Schemes for Nonlinear Schrödinger Equations, Foundations of Computational Mathematics, Santander 2005, L.M. Pardo et al. eds., London Mathematical Society Lecture Notes 331, Cambridge University Press, p. 181-207, 2006, ISBN 0-521-68161-8.
5. **Ignat, I.L., Zuazua, E.**, A two-grid approximation scheme for nonlinear Schrödinger equations: Dispersive properties and convergence, C. R. Math. Acad. Sci. Paris, (6), 341, 381-386.
6. **Ignat, I.L., Zuazua, E.**, Dispersive properties of a viscous numerical scheme for the Schrödinger equation, C. R. Acad. Sci. Paris, Ser. I, (7) 340, 479-556, 2005.
7. **Ignat, I.L., Catalin Lefter, Vicentiu Radulescu**, Minimization of the renormalized energy in the unit ball of $\mathbb{R}^2$, Nieuw Archief voor Wiskunde, 1 (2000), no. 3, 278-280.

Submitted papers

1. **Ignat, I.L., Zuazua, E**, Numerical dispersive schemes for the nonlinear Schrödinger Equation, submitted to SIAM Journal of Numerical Analysis.
2. **Ignat, I.L., Rossi J.**, Refined asymptotic expansions for nonlocal diffusion equations, submitted to Journal of Fourier Analysis and Applications.
3. **Ignat, I.L., Rossi J.**, A nonlocal convection-diffusion equation, submitted to Journal of Functional Analysis.
4. **Ignat, I.L., Rossi J.**, Asymptotic behavior for a nonlocal diffusion equation on a lattice, submitted to ZAMP (Zeitschrift für Angewandte Mathematik und Physik).
5. **Ignat, I.L.**, On the numerical approximations of the periodic Schrödinger equation, submitted to Mathematical Modelling and Numerical Analysis
6. **Ignat, I.L., Zuazua, E**, "Convergence of a two-grid algorithm for the control of the wave equation", submitted to Journal of the European Mathematical Society.

4. Fellowships

- Fellowship from Cambridge Philosophical Society as young participant to the program "Highly Oscillatory Problems: Computation, Theory and Application" of Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 2007.
- FPU fellowship for realizing the Ph.D. thesis, Spanish Ministry of Education, 01/01/2004-31/03/2006, Universidad Autónoma de Madrid, Madrid, Spain.
- Pre-doctoral Fellowship, E.U Project "Homogenization and Multiple Scales", 25/09/2002 – 31/12/2003, Universidad Autónoma de Madrid, Spain.
- Scholarship from University Honours College of University of Pittsburgh, USA, 09/1998-05/1999, University of Pittsburg, USA.

5. Participations in Research Projects

- **Desarrollo de aplicacion informatica para el diseno optimo aeronautico mediante tecnicas novedosas**, Universidad Autonoma de Madrid, PLAN NACIONAL DE INVESTIGACION CIENTIFICA, DESARROLLO E INNOVACION TECNOLOGICA (CIT-370200-2005-10) – MEC- Spain, 1/11/2005 - 30/10/2008, Grant Directors: Francisco Palacios, Instituto Nacional de Tecnica Aeroespacial, Enrique Zuazua Iriondo – UAM, 240000 €.

- **Analisis, aproximacion numerica y diseno optimo de ecuaciones en derivadas parciales**, MTM 2005-00714, Universidad Autonoma de Madrid, MEC, 01/11/2005 - 31/10/2008, Grant Director Enrique Zuazua Iriondo, 192 000 €.

- **Analisis, Control y Simulacion Numerica en medios heterogeneos y en la interaccion fluido-estructura**, BFM2002-03345, Universidad Autónoma de Madrid, MCYT, Grant Director Enrique Zuazua Iriondo, 171 000€.

- **Smart system, new materials, adaptive systems and their nonlinearities modelling, control and numerical simulation**, HPRN-CT-2002-00284, Universidad Autónoma de Madrid, EU, Grant Director: Enrique Zuazua Iriondo, 130000€ Spanish group.

• **Homogenization and Multiple Scales**, HPRN-CT-2000-00109, Universidad Autónoma de Madrid, EU, Grant Director Enrique Zuazua Iriondo, 180 000€ Spanish group.

• **Integrarea in spatiul european a invatamantului masteral romanesc: promovarea cercetarii interdisciplinare prin studiul analizei neliniare si problemelor de evolutie**, Contract 26761/2005; Grant CNCSIS 80, 2005, Grant Director: Constantin P. Niculescu.

• **Sisteme dinamice si probleme de evolutie**, MEN26044/2001; Grant CNCSIS D4/2001, Universitatea din Craiova, Romania, 2001, Grant Director Constantin P. Niculescu.

• **Noi inegalitati analitice si algebrice si aplicatiile lor, Inegalitati aplicate in teoria convexitatii, ecuatii de fizica matematica si analiza numerica**, 35254/2001, 9; Grant CNCSIS 143/2001, Universitatea din Craiova, Romania, 2001, Grant Director Constantin P. Niculescu.

6. Participations in Seminars, Congresses, Courses

6.1. Talks in conferences

1. *Dispersive schemes for linear and nonlinear Schrödinger equations*, invited conference in the program "Highly Oscillatory Problems: Computation, Theory and Application", Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 08/04/2007
2. *Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation*, Invited Conference, University Roma1 "La Sapienza", Roma, 21/02/2007.
3. *Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation*, "European Conference on Smart Systems", Roma, 26-28/10/2006.
4. *Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation*, International Congress of Mathematicians, Madrid, 22-30/08/2006.
5. *Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation*, International Congress of Mathematicians, Institute of Mathematics of Romanian Academy, Bucharest, 7-14/06/2006.
6. *Numerical approximation scheme for dispersive equations*, Workshop "Partial Differential Equations, Optimal Design and Numerics", Benasque, 28.08-09.09.2005.
7. *Unique continuation property for the eigenvalues of the discrete Laplacian on the square*, Workshop "Partial Differential Equations, Optimal Design and Numerics", Benasque, 28/08-09/09/2005.
8. *Qualitative properties of Numerical Approximations of the Heat Equation*, European Conference on Numerical Mathematics and Advanced Applications: Enumath 2005, Santiago de Compostela, 18-22/06/2005.
9. *Schrödinger equations, numerical approximation schemes and dispersive properties*, The seminar of Applied Mathematics of Department of Mathematics of Universidad Autónoma de Madrid, Madrid, Spain.
10. *Dispersive properties for numerical approximation of Schrödinger Equation*, Universite de Tunis, Tunis, 30.04.2004.
11. *Dispersive properties for numerical approximation of Schrödinger Equation*, Midterm meeting of the TMR project "Homogenization and multiple scales", Heidelberg, Germany, 6/12/2002 –7/12/2002.

12. *A Variational Approach to Discontinuous Problems with Critical Exponents*, Inequalities, Timisoara, Rumania, 9/07/2001-14/07/2001.

6.2. Other participations

1. The program "Highly Oscillatory Problems: Computation, Theory and Application" organized by Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 12/04/2007-09/05/2007.
2. The course "Computational Methods for Flow and Structural Control", Prof. Roland Glowinski, Univ. of Houston, 16-20/05/2005, Universidad Autónoma de Madrid, Madrid, Spain.
3. The course "A short course on Level Set Methods", Prof. Gregoire Allaire, Ecole Polytechnique Paris, 11-15/04/2005, Universidad Autónoma de Madrid, Madrid, Spain.
4. Primer Congreso Conjunto de Matemáticas RSME-SCM-SEIO-SEMA, Valencia, 31/01–04/02/2005, RSME-SCM-SEIO-SEMA, Valencia, Spain.
5. Fabes Lectures on Real Analysis & PDE's, Bilbao, 9/9/2004-11/09/2004, Universidad del Pais Vasco/Euskal Herriko Unibertsitatea, Spain.
6. 7th International Conference on Harmonic Analysis and Partial Differential Equations, El Escorial, Madrid, Spain, 21/06/2004-25/06/2004.
7. The course "Domain Decomposition Solution of PDE's and Applications", Prof. Alfio Quarteroni, Ecole Polytechnique Fédérale de Lausanne, 23-27/02/2004, Universidad Autónoma de Madrid, Madrid, Spain
8. The course "Nuevos Retos en Matemática Aplicada", Castro Urdiales, Spain, 1/09/2003-5/09/2003.
9. Workshop on Harmonic Analysis and Partial Differential Equations, Puerto Vallarta, Mexico, 23/06/2003- 27/06/2003.
10. The course "Numerical Analysis", Craiova, Romania, may 2002.
11. The course "Nonlinear Analysis", Brasov, Romania, July 2000.

7. Awards

- Honorable Mention, Putnam Competition, USA, 1998.
- Silver Medal, International Mathematical Olympiad, Argentina, 1997.
- Placed on The Dean's Honor List as student with only A and A+ degree, University of Pittsburgh, USA, 1998-1999.