

**Curriculum vitae**

**Ramón Escobedo Martínez**

**March 28, 2014**

(16 pages)

## PERSONAL DATA

Name: ESCOBEDO MARTINEZ, Ramón Gender: male  
DNI/Passport: 30.599.165B Born : 16/08/1967 in: Bilbao (Spain)  
Nationality: Spanish  
Address: Pza. Celestino M<sup>a</sup> del Arenal 14, 10<sup>o</sup>D – Bilbao 48015, Vizcaya (Spain)  
Phone (home): (+34) 946 001 099  
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## PREVIOUS POSITION

RAMON Y CAJAL RESEARCHER 2007 – 2011  
Depto. MATEMATICA APLICADA Y CIENCIAS DE LA COMPUTACION  
UNIVERSIDAD DE CANTABRIA  
Av. de Los Castros s/n, 39005 SANTANDER, CANTABRIA – SPAIN

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## RESEARCH INTERESTS

**Applied Mathematics:** Partial Differential Equations, Nonlinear Analysis, Dynamical Systems, Pattern Formation, Free Boundary Problems, Asymptotic Analysis, Optimal Control, Game Theory

**Numerical Analysis and Simulation:** Finite Differences, Level Sets, Methods for Conservation Laws and Free Boundary Problems, Genetic Algorithms

**Applied Areas:** Physics of Semiconductors, Polymer Crystallization Processes, Imaging, Population and Molecular Genetics, Collective Animal Behavior

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## QUALIFICATIONS

(MICINN – SPANISH MINISTRY OF SCIENCE AND EDUCATION)

- Programa I3 – Incentivación de la Incorporación e Intensificación de la Investigación (2010)
  - Profesor Contratado Doctor (ANECA, 2005)
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## EDUCATION

PhD Mathematics	Departamento de Matemáticas Escuela Politécnica Superior Universidad Carlos III de Madrid	12 Nov. 2001
MS Mathematics, (Speciality Numerical Analysis)	Facultad de Ciencias, Universidad del País Vasco	21 Oct. 1992
Certificado de Adaptación Pedagógica – C.A.P.	Universidad de Zaragoza	1993

## PREVIOUS POSITIONS (OF SCIENTIFIC INTEREST)

*Reversed chronological order*

Position	Department/Institute	Institution	from	to
<i>Ramón y Cajal researcher</i>	<i>Dep. of Applied Mathematics and Computational Sciences</i>	<i>Universidad de Cantabria</i>	<i>01/01/2007</i>	<i>31/12/2011</i>
<i>Post-Doc researcher</i>	<i>Departamento de Matemáticas</i>	<i>Universidad Carlos III de Madrid</i>	<i>01/10/2003</i>	<i>01/10/2005</i>
<i>Post-Doc researcher</i>	<i>Dipartimento di Matematica</i>	<i>Università Degli Studi di Milano, Italia</i>	<i>12/11/2001</i>	<i>01/10/2002</i>
<i>Pre-Ph.D researcher</i>	<i>Dipartimento di Matematica</i>	<i>Università Degli Studi di Milano, Italia</i>	<i>01/10/2001</i>	<i>11/11/2002</i>

## LANGUAGES

*English (fluent), French (first language), Italian (conversant), Spanish (native speaker)*

## ACTIVE INVOLVEMENT IN RESEARCH PROJECTS

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<i>TITLE OF THE PROJECT:</i>	<i>Control de Ecuaciones en Derivadas Parciales y Aplicaciones</i>
<i>FUNDING ORGANIZATION:</i>	<i>Ministerio de Ciencia e Innovación – Ref. MTM2008-04206 3 years, 2008-2011</i>
<i>PRINCIPAL INVESTIGATOR:</i>	<i>Eduardo Casa Rentaría, Universidad de Cantabria, Santander</i>
<i>TITLE OF THE PROJECT:</i>	<i>Problemas de Frontera libre en modelos de convección-difusión en semiconductores</i>
<i>FUNDING ORGANIZATION:</i>	<i>Comunidad de Madrid 2 years, from: October 1, 2003 to: October 1, 2005</i>
<i>PRINCIPAL INVESTIGATOR:</i>	<i>Luis L. Bonilla, Univ. Carlos III de Madrid, Leganés, Madrid</i>
<i>TITLE OF THE PROJECT:</i>	<i>Differential Equations in Industry and Commerce</i>
<i>FUNDING ORGANIZATION:</i>	<i>E. U. TMR (Training and Mobility of Researchers) Network 1 year, from: October 1, 2001 to: October 1, 2002</i>
<i>PRINCIPAL INVESTIGATOR:</i>	<i>Vincenzo Capasso, Dpto. di Matematica, Università degli Studi di Milano, Milán, Italia</i>
<i>TITLE OF THE PROJECT:</i>	<i>Estudio de aspectos hidrodinámicos de combustión y transporte de carga.</i>
<i>FUNDING ORGANIZATION:</i>	<i>Ministerio de Educación y Ciencia – Ref. PB98-0142-C04-01 3 years, from: January 1, 1998 to: January 1, 2001</i>
<i>PRINCIPAL INVESTIGATOR:</i>	<i>Luis L. Bonilla, Universidad Carlos III de Madrid, Leganés, Madrid</i>

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## GRANTS AND SCHOLARSHIPS

- Ramón y Cajal Contract -- Spanish Ministry of Science and Innovation  
Universidad de Cantabria, Santander – Spain (183,800€, 2007-2011)
- Scholarship for PhD Thesis -- Fundación Carlos III, Spain  
Dpto. de Matemáticas, Universidad Carlos III de Madrid (~6,200€, 12 months, 2001)
- Scholarship for attending PhD courses – Spanish Ministry of Education and Culture  
Dpto. de Matemáticas, Universidad de Granada (~3,600€, 6 months, 2000)
- Scholarship for PhD students mobility – Fundación Carlos III, Spain  
Dipto. di Matematica and CASPUR Center for Computation, Università “La Sapienza”, Roma, Italy

## PUBLICATIONS

**25 Papers** (64% in the first quartile Q1), 2 submitted – **21 Proceedings** (+1)  
**86 citations** – **h index: 5 (Scopus)**

### SUBMITTED PAPERS:

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[27] AUTHORS: R. Escobedo, L. A. Fernández  
TITLE: *A Free Boundary Problem for Polymer Crystallization in Axisymmetric Samples*  
SUBMITTED TO: [Comput. Math. Appl.](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 2.069 (2012)  
JOURNAL RANKING: Q1 Mathematics, Applied (2012)

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[26] AUTHORS: R. Escobedo, A. Laruelle  
TITLE: *Emergence of cooperation in heterogeneous population: a discrete-time replicator dynamics analysis*  
SUBMITTED TO: [J. Math. Biol.](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 2.366 (2012)  
JOURNAL RANKING: Q1 Mathematics, Applied (2012)

**PUBLISHED:** (citation number taken from Web of Knowledge and PubMed – all databases)

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[25] AUTHORS: R. Escobedo, C. Muro, L. Spector, R. P. Coppinger  
TITLE: *Group size, individual role differentiation, and effectiveness of cooperation in a homogeneous group of hunters*  
SUBMITTED TO: [J. R. Soc. Interface – in press](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **4.907** (2012)  
JOURNAL RANKING: Q1 (2012) – 5th out of 56 in 'Multidisciplinary Sciences'  
N° CITES: 0

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[24] AUTHORS: R. Escobedo, L. A. Fernández  
TITLE: *A classical one-phase Stefan problem for describing a polymer crystallization process*  
JOURNAL: [SIAM J Appl. Math. 73 \(2013\) 254-280](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **1.577** (2012)  
JOURNAL RANKING: Q1 in Mathematics, Applied (2010)  
N° CITES: 0

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[23] AUTHORS: R. Escobedo, L. A. Fernández  
TITLE: *Optimal cooling strategies in polymer crystallization*  
JOURNAL: [J. Math. Chem. 50 \(2012\) 213-324](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **1.303**  
JOURNAL RANKING: 30 of 92 in Mathematics, Interdisciplinary Applications (2011)  
N° CITES: 1

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[22] AUTHORS: Muro, C., Escobedo, R., Spector, L., Coppinger, R.P.  
TITLE: *Wolf-pack (Canis lupus) hunting strategies emerge from simple rules in computational simulations*  
JOURNAL: [Behav. Proc. 88 \(2011\) 192-197](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **1.652**  
JOURNAL RANKING: 35 of 146 in Zoology (38 of 47 in Behavioral Sciences) (2011)  
N° CITES: 4 (3 Scopus + 1 PubMed)

**Hottest article** of this Journal from SciVerse in Oct-Dec 2011,  
**4<sup>th</sup> hottest article** of year 2012, **9<sup>th</sup> hottest article** of year 2011.

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[21] AUTHORS: Muro, C., Escobedo, R., Spector, L., Coppinger, R.P.  
TITLE: *Wolf-pack hunting strategy: an emergent collective behavior described by a classical robotic model*  
JOURNAL: [J. Vet. Behav.-Clin. Appl. Res. 6 \(2011\) 94](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 1.653 (2012)  
JOURNAL RANKING: Q1 in Zoology (Q4 in Behavioral Sciences) (2011)  
N° CITES: 1

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[20] AUTHORS: R. Escobedo, L. A. Fernández  
TITLE: *Optimal control of chemical birth and growth processes in a deterministic model*  
JOURNAL: [J. Math. Chem. 48 \(2010\) 118-127](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 1.259  
JOURNAL RANKING: 33 of 93 in Mathematics, Interdisciplinary Applications  
N° CITES: 2

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[19] AUTHORS: R. Escobedo, M. Carretero, L. L. Bonilla, G. Platero  
TITLE: *Phase diagrams and switching of voltage and magnetic field in dilute magnetic semiconductor nanostructures*  
JOURNAL: [Phys. Status Solidi RRL \(Rapid Research Letter\), 3-4 \(2010\) 76-78](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 2.815  
JOURNAL RANKING: 20 of 118 in Physics, Applied; 40 of 225 in Material Sciences, Multidisciplinary, and 15 of 68 in Physics, Condensed Matter  
N° CITES: 0

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[18] AUTHORS: R. Escobedo, M. Carretero, L. L. Bonilla, G. Platero  
TITLE: *Magnetoswitching of current oscillations in dilute magnetic semiconductor nanostructures*  
JOURNAL: [Phys. Rev. B 80, 155202 \(2009\) \(6 pages\)](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 3.475  
JOURNAL RANKING: 12<sup>a</sup> de 66 de Physics, Condensed Matter  
N° CITES: 3  
[Selected for Virtual Journal of Nanoscale Science & Technology 20, Issue 17 \(26 Oct. 2009\)](#)

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[17] AUTHORS: R. Escobedo, M. Carretero, L. L. Bonilla, G. Platero  
TITLE: *Self-sustained spin-polarized current oscillations in multi-quantum well structures*  
JOURNAL: [New J. Phys. 11, No. 1 \(2009\) 013033 \(19 pages\)](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 3.312  
JOURNAL RANKING: 12<sup>a</sup> de 71 de Physics, Multidisciplinary  
N° CITES: 6  
[Selected for Virtual Journal of Nanoscale Science & Technology 19, Issue 7 \(16 Febr. 2009\)](#)

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[16] AUTHORS: M. Carretero, R. Escobedo, L. L. Bonilla, G. Platero  
TITLE: *Self-sustained spin-polarized current oscillations in diluted magnetic semiconductor superlattices*  
JOURNAL: [IEEE Transactions on Magnetics 44, No. 11 \(2008\) 2662-2665](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 1.129  
JOURNAL RANKING: 59<sup>a</sup> de 95 de Engineering, Electrical & Electronic (Q2)  
N° CITES: 0

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[15] AUTHORS: R. Escobedo, M. Carretero, L. L. Bonilla, G. Platero  
TITLE: *Self-Sustained Current Oscillations in a Multi-Quantum Well Spin Polarized Structure with Normal Contacts*  
JOURNAL: [Phys. Stat. Sol. \(a\) 205, No. 6 \(2008\) 1270-1275](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 1.205  
JOURNAL RANKING: 92<sup>a</sup> de 192 de Material Sciences, Multidisciplinary (Q2)  
N° CITES: 0

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[14] AUTHORS: R. Escobedo  
TITLE: *A CFL-like Constraint for the Fast Marching Method in Inhomogeneous Chemical Kinetics*  
JOURNAL: [Int. J. Quantum Chem. 108, No. 5 \(2008\) 848-857](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **1.317**  
JOURNAL RANKING: 26<sup>a</sup> de 76 of Mathematics, Interdisciplinary Applications  
N° CITES: 2

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[13] AUTHORS: M. Carretero, R. Escobedo, L. L. Bonilla, G. Platero  
TITLE: *Multiquantum well spin polarized current oscillator*  
JOURNAL: [Physica E 40, No. 5 \(2008\) 1099-1101](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **1.230**  
JOURNAL RANKING: 34<sup>a</sup> de 52 JOURNALs de Physics, Condensed Matter  
N° CITES: 0

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[12] AUTHORS: L. L. Bonilla, R. Escobedo, M. Carretero, G. Platero  
TITLE: *Multi-quantum-well spin oscillator*  
JOURNAL: [Appl. Phys. Lett. 91, \(2007\) 092102](#) (3 pages)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **3.596**  
JOURNAL RANKING: 8<sup>a</sup> de 94 JOURNALs de Physics, Applied  
N° CITES: 7  
[Selected for Virtual Journal of Nanoscale Science & Technology 16, Issue 11](#) (10 Sept. 2007)

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[11] AUTHORS: G. Dell'Acqua, L. L. Bonilla, R. Escobedo  
TITLE: *Relocation dynamics and multistable switching in semiconductor superlattices*  
JOURNAL: *J. Comput. Appl. Math.* **204** (2007) 18–24  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **0.943**  
JOURNAL RANKING: 51<sup>a</sup> de 165 JOURNALs of Mathematics, Applied (2007)  
N° CITES: 0

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[10] AUTHORS: L. L. Bonilla, R. Escobedo, G. Dell'Acqua  
TITLE: *Voltage switching and domain relocation in semiconductor superlattices*  
JOURNAL: *Phys. Rev. B* **73** (2006) 115341 (13 pages)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **3.107**  
JOURNAL RANKING: 10<sup>a</sup> de 58 JOURNALs de Physics, Condensed Matter  
N° CITES: 14

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[ 9 ] AUTHORS: R. Escobedo, L. L. Bonilla  
TITLE: *Numerical methods for a quantum drift-diffusion equation in semiconductor physics*  
JOURNAL: *J. Math. Chem.* **40** (2006) 3–13  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **0.965**  
JOURNAL RANKING: 25<sup>a</sup> de 65 JOURNALs of Mathematics, Interdisciplinary Applications  
N° CITES: 3

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[ 8 ] AUTHORS: L. L. Bonilla, R. Escobedo  
TITLE: *Wigner-Poisson and nonlocal drift-diffusion model equations for semiconductor superlattices*  
JOURNAL: *Math. Mod. Meth. in Appl. Sci. (M3AS)*, Vol. **15**, No.8 (2005) 1253–1272  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: **1.248**  
JOURNAL RANKING: 19<sup>a</sup> de 151 JOURNALs of Mathematics, Applied y 28<sup>a</sup> de 340 de Matemáticas (todos los campos)  
N° CITES: 8

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[ 7 ] AUTHORS: R. Escobedo, V. Capasso  
TITLE: *Moving bands and moving boundaries with decreasing speed in polymer crystallization*  
JOURNAL: Math. Mod. Meth. in Appl. Sci. (M3AS), Vol. 15, No.3 (2005) 325–341  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 1.248  
JOURNAL RANKING: 19<sup>a</sup> de 151 JOURNALS of Mathematics, Applied y 28<sup>a</sup> de 340 de Matemáticas (todos los campos)  
Nº CITES: 5

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[ 6 ] AUTHORS: A. Perales, L. L. Bonilla, R. Escobedo  
TITLE: *Miniband transport and oscillations in semiconductor superlattices*  
JOURNAL: Nanotechnology 15, issue 4, pp. S229–S233 (2004)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 3.322  
JOURNAL RANKING: 8<sup>a</sup> de 79 JOURNALS de Applied Physics, 1<sup>a</sup> de 61 JOURNALS de Engineering, Multidisciplinary  
Nº CITES: 3

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[ 5 ] AUTHORS: L. L. Bonilla, R. Escobedo, A. Perales  
TITLE: *Generalized drift-diffusion model for miniband superlattices*  
JOURNAL: Phys. Rev. B 68 (R) (2003) 241304/1–4  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 2.962  
JOURNAL RANKING: 6<sup>a</sup> de 57 JOURNALS de Physics, Condensed Matter  
Nº CITES: 17  
Selected for [Virtual Journal of Nanoscale Science & Technology 8, Issue 26](#) (29 Dec. 2003)

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[ 4 ] AUTHORS: L. L. Bonilla, R. Escobedo, F. J. Higuera  
TITLE: *Free-boundary Problems describing two-dimensional pulse recycling and motion in semiconductors*  
JOURNAL: Phys. Rev. E 67 (2003) 036202/1–8  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 2.202  
JOURNAL RANKING: 1<sup>a</sup> de 31 JOURNALS de Mathematical Physics  
Nº CITES: 1

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[ 3 ] AUTHORS: R. Escobedo, L. L. Bonilla  
TITLE: *Wave Dynamics in two-dimensional samples of n-GaAs with point contacts*  
JOURNAL: J. of Chaos, Solitons and Fractals 17 (2003) 283–288  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 1.064 (2003), 3.315 (2009)  
JOURNAL RANKING: 28<sup>a</sup> de 153 JOURNALS of Mathematics, Applied  
Nº CITES: 2

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[ 2 ] AUTHORS: L. L. Bonilla, R. Escobedo, F. J. Higuera  
TITLE: *Axisymmetric pulse recycling and motion in bulk semiconductors*  
JOURNAL: Phys. Rev. E 65 (2001) 016607/1–8  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 2.235  
JOURNAL RANKING: 1<sup>a</sup> de 29 JOURNALS de Mathematical Physics  
Nº CITES: 5 (Scopus)

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[ 1 ] AUTHORS: L. L. Bonilla, R. Escobedo  
TITLE: *Two-dimensional oscillatory patterns in semiconductors with point contacts*  
JOURNAL: Phys. Rev. E 64 (2001) 036203/1–4  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 2.235  
JOURNAL RANKING: 1<sup>a</sup> de 29 JOURNALS de Mathematical Physics  
Nº CITES: 2 (Scopus)

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## IMPACT FACTORS (IF) AND RANKING OF MENTIONED JOURNALS

Year	JOURNAL	IF of the year	IF of 2012	Ranking/ Total n° of Journals	Ranking 2009 /Total n° of journals
2014	<a href="#">J Roy Soc Interface (2012)</a>	<b>4.907</b>	<b>4.907</b>	<b>Q1 – 5/56</b>	<b>–</b>
2013	<a href="#">SIAM J. Appl. Math. (2012)</a>	<b>1.577</b>	<b>1.577</b>	<b>Q1</b>	<b>Q1</b>
2012	<a href="#">J. Math. Chem. (2012)</a>	<b>1.226</b>	<b>1.226</b>	<b>Q2</b>	<b>Q2</b>
2011	Behavioural Processes	<b>1.652</b>	1.507	35/146, 38/47 – <b>Q1</b> , Q4	37/129, 38/49 – Q2, Q4
2011	J. Vet. Behav. (x2)		1.653		
2010	J. Math. Chem.	1.259	1.226	33/93 – Q2	23/80, 64/138 – Q2
2010	Physica Status Solidi (RRL)	<b>2.815</b>	<b>2.388</b>	20/118, 40/225, 15/68 – <b>Q1</b>	19/105, 15/66, 38/202 – <b>Q1</b>
2009	Phys. Rev. B	<b>3.475</b>	<b>3.767</b>	12/66 – <b>Q1</b>	12/66 – <b>Q1</b>
2009	J. Vet. Behav.		1.653		
2009	New Journal of Physics	<b>3.312</b>	<b>4.063</b>	12/71 – <b>Q1</b>	12/71 – <b>Q1</b>
2008	IEEE Trans. on Magnetism	1.129	1.422	59/95 – Q3	60/105, 115/245 – Q3,2
2008	Physica Status Solidi (a)	1.205	1.469	92/192, 55/95 – Q2,3	101/212, 56/105 – Q2,3
2008	Int. J. Quantum Chemistry	1.317	1.306	26/76 – Q2	25/80 – Q2
2008	Physica E	1.230	1.522	34/52 – Q3	41/59, 38/66 – Q3
2007	Applied Physics Letters	<b>3.596</b>	<b>3.794</b>	8/94 – <b>Q1</b>	14/105 – <b>Q1</b>
2007	J. Comput. Appl. Math.	0.943	0.989	51/165 – Q2	46/ 202 – <b>Q1</b>
2006	Phys. Rev. B	<b>3.107</b>	<b>3.767</b>	10/58 – <b>Q1</b>	12/66 – <b>Q1</b>
2006	J. Math. Chem.	0.965	1.226	25/65 – Q2	23/80 – Q2
2005	Math. Mod. Meth. Appl. Sci. (x2)	<b>1.248</b>	<b>1.874</b>	19/151 – <b>Q1</b>	9/202 – <b>Q1</b>
2004	Nanotechnology (*)	<b>3.322</b>	<b>3.842</b>	8/79, 1/61 – <b>Q1</b>	16/105, 2/79 – <b>Q1</b>
2003	Phys. Rev. B	<b>2.962</b>	<b>3.767</b>	6/57 – <b>Q1</b>	12/66 – <b>Q1</b>
2003	Chaos Solitons & Fractals	<b>1.064</b>	<b>1.246</b>	28/153 – <b>Q1</b>	2/80 – <b>Q1</b>
2003	Phys. Rev. E	<b>2.202</b>	<b>2.313</b>	1/31 – <b>Q1</b>	5/47 – <b>Q1</b>
2001	Phys. Rev. E (x2)	<b>2.235</b>	<b>2.313</b>	1/29 – <b>Q1</b>	5/47 – <b>Q1</b>

(\*) The journal **Nanotechnology** is the 8<sup>th</sup> of 79 in the list “Applied Physics”, and 1<sup>st</sup> of 61 in “Engineering, Multidisciplinary”.



## **PROCEEDINGS**

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**[21]** AUTHORS: R. Escobedo, L. A. Fernández

TITLE: *A Free Boundary Problem for Polymer Crystallization in Axisymmetric Samples*

BOOK: Proc. of the 11th CMMSE 2011, Int. Conf. Computational and Mathematical Methods on Science and Engineering. Benidorm, Alicante (Spain) June 26–29 2011

VOLUME/PAGE/EDITOR: Vol. II, pp. 465-471

Ed.: J. Vigo-Aguiar. Assoc. Eds.: R. Cortina, S. Gray, J.M. Ferrándiz, A. Fernández, I. Hamilton, J.A. López Ramos, P. de Oliveira, R. Steinwandt, E. Venturino, J. Whiteman, B. Wade  
ISBN: 978-84-614-6167-7

PUBLICATION DATE: 2010

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**[20]** AUTHORS: R. Escobedo, L. A. Fernández

TITLE: *Optimal Cooling Strategies in Polymer Crystallization*

BOOK: Proc. of the 10th CMMSE 2010, Int. Conf. Computational and Mathematical Methods on Science and Engineering. Almería, Andalucía (Spain) June 26–30 2010

VOLUME/PAGE/EDITOR: Vol. II, pp. 480-490

Ed.: J. Vigo-Aguiar. Assoc. Eds.: H. Adeli, J. A. López-Ramos, S. Oharu, J. Ranilla, J. Rosenthal, N. Stollenwerk, E. Venturino and B. A. Wade  
ISBN: 978-84-613-5510-5

PUBLICATION DATE: 2010

---

**[19]** AUTHORS: R. Escobedo, M. Carretero, L. L. Bonilla, G. Platero

TITLE: *Relocation Dynamics during Voltage Switching in Spin-Polarized Superlattices*

BOOK: Progress in Industrial Mathematics at ECMI 2008

VOLUME/PAGE/EDITOR: Mathematics in Industry **15**, pp. 159-166

Eds. Fitt, A.D.; Norbury, J.; Ockendon, H.; Wilson, E. Springer – ISBN: 978-3-642-12109-8.

PUBLICATION DATE: 2010

---

**[18]** AUTHORS: M. Carretero, L. L. Bonilla, R. Escobedo, G. Platero

TITLE: *Self-Sustained Spin-Polarized Current Oscillations in Multiquantum Well Structures*

BOOK: Progress in Industrial Mathematics at ECMI 2008

VOLUME/PAGE/EDITOR: Mathematics in Industry **15**, pp. 147-152

Eds. Fitt, A.D.; Norbury, J.; Ockendon, H.; Wilson, E. Springer – ISBN: 978-3-642-12109-8.

PUBLICATION DATE: 2010

---

**[17]** AUTHORS: L. A. Fernández, R. Escobedo

TITLE: *Optimal Control of Non-isothermal Polymer Crystallization Processes in Deterministic Models*

BOOK: AIP Conf. Proc. of the 7th ICNAAM 2009

Int. Conf. on Numerical Analysis and Applied Mathematics. Crete, Greece, 18-22 Sept. 2009

VOLUME/PAGE/EDITOR: Volume 1168, pp. 1051-1054 (September 9, 2009)

Eds. T. E. Simos, G. Psihoyios, Ch. Tsitouras – ISBN: 978-0-7354-0709

PUBLICATION DATE: 2009

---

**[16]** AUTHORS: R. Escobedo, L. A. Fernández

TITLE: *Optimal control of Chemical Birth and Growth Processes in a Deterministic Model*

BOOK: Proc. of the 9th CMMSE 2009, Int. Conf. Computational and Mathematical Methods on Science and Engineering. Gijón, Asturias (Spain) June 30, July 1-3 2009

VOLUME/PAGE/EDITOR: Vol. II, pp. 449-460

Ed.: J. Vigo-Aguiar. Assoc. Eds.: P. Alonso, S. Oharu, E. Venturino, B. A. Wade  
ISBN: 978-84-612-9727-6

PUBLICATION DATE: 2009

---

**[15]** AUTHORS: L. L. Bonilla, L. Barletti, R. Escobedo, M. Alvaro

TITLE: *Nonlinear electronic transport in semiconductor superlattices*

BOOK: Applied and Industrial Mathematics in Italy II Selected Contributions from the 8th SIMAI Conference, Baia Samuele (Ragusa), Italy 22-26 May 2006. Eds. V. Cutello, G. Fotia, L. Puccio

VOLUME/PAGE/EDITOR: Series on Advances in Mathematics for Applied Sciences **75**, pp. 169-179

ISBN: 978-981-270-938-7; 981-270-938-X

PUBLICATION DATE: 2007

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---

[14] AUTHORS: R. Escobedo  
TITLE: *A CFL-like Constraint for the Fast Marching Method in Nonhomogeneous Chemical Kinetics*  
BOOK: Proc. of the 7th CMMSE 2007, Int. Conf. Computational and Mathematical Methods on Science and Engineering. Illinois Institute of Tech. - Chicago, Illinois (USA), June 20-23, 2007  
VOLUME/PAGE/EDITOR: pp. 169–179  
Eds. G. Fasshauer, A. Q. M. Khaliq, J. Vigo Aguiar, B. A. Wade – ISBN: 978-84-690-6887-8  
PUBLICATION DATE: 2007

---

[13] AUTHORS: R. Escobedo, L. L. Bonilla  
TITLE: Quantum drift-diffusion equations for semiconductor superlattices  
BOOK: Recent Advances in Nonlinear Partial Differential Equations and Applications  
VOLUME/PAGE/EDITOR: Proceedings of Symposia in Applied Mathematics **65**, p. xvi  
Eds. L. L. Bonilla, A. Carpio, J. M. Vega, S. Venakides  
ISBN: 978-0-8218-4211-9  
PUBLICATION DATE: 2007

---

[12] AUTHORS: G. Dell'Acqua, L. L. Bonilla, R. Escobedo  
TITLE: Voltage switching and domain relocation in semiconductor superlattices  
BOOK: Recent Advances in Nonlinear Partial Differential Equations and Applications  
VOLUME/PAGE/EDITOR: Proceedings of Symposia in Applied Mathematics **65**, p. xvi  
Eds. L. L. Bonilla, A. Carpio, J. M. Vega, S. Venakides  
ISBN: 978-0-8218-4211-9  
PUBLICATION DATE: 2007

---

[11] AUTHORS: G. Dell'Acqua, L. L. Bonilla, R. Escobedo  
TITLE: *Hopf Bifurcation in a Superlattice Model*  
BOOK: Proc. of the 6th CMMSE 2006, Int. Conf. Computational and Mathematical Methods on Science and Engineering. Universidad Juan Carlos I, Madrid - Spain, September 21-25, 2006  
VOLUME/PAGE/EDITOR: Vol. I, pp. 278-296  
Eds. R. Criado, D. Estep, M. A. García, J. Vigo-Aguiar  
ISBN: 84-611-1090-0; 978-84-611-1090-2  
PUBLICATION DATE: 2006

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[10] AUTHORS: R. Escobedo, L. L. Bonilla  
TITLE: *Numerical methods for a quantum drift-diffusion equation in semiconductor physics*  
BOOK: V Proceedings of the CMMSE 2005  
VOLUME/PAGE/EDITOR: Eds. 2005, pp. 153-165, ISBN: 84-609-4844-7.  
PUBLICATION DATE: 2005

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[ 9 ] AUTHORS: G. Dell'Acqua, L. L. Bonilla, R. Escobedo  
TITLE: *Relocation dynamics and multistable switching in semiconductor superlattices*  
BOOK: V Proceedings of the CMMSE 2005  
VOLUME/PAGE/EDITOR: Eds. 2005, pp. 143-152  
ISBN: 84-609-4844-7.  
PUBLICATION DATE: 2005

---

[ 8 ] AUTHORS: L. L. Bonilla, R. Escobedo  
TITLE: *Quantum kinetic and drift-diffusion equations for semiconductor superlattices*  
BOOK: Progress in Industrial Mathematics at ECMI 2004  
VOLUME/PAGE/EDITOR: Mathematics in Industry 8, pp. 109-113,  
Eds. A. Di Bucchianico, R. M. M. Mattheij, M. A. Peletier - Springer, Berlin 2005  
ISBN: 3-540-28072-3.  
PUBLICATION DATE: 2005

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[ 7 ] AUTHORS: L. L. Bonilla, G. Dell'Acqua, R. Escobedo  
TITLE: *Relocation of electric field domains and switching scenarios in superlattices*  
BOOK: Progress in Industrial Mathematics at ECMI 2004  
VOLUME/PAGE/EDITOR: Mathematics in Industry 8, pp. 104-108,  
Eds. A. Di Bucchianico, R. M. M. Mattheij, M. A. Peletier - Springer, Berlin 2005  
ISBN: 3-540-28072-3.  
PUBLICATION DATE: 2005

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- [ 6 ] AUTHORS: R. Escobedo, V. Capasso  
TITLE: *Moving Bands and Boundaries with Decreasing Speed in Polymer Crystallization*  
BOOK: Progress in Industrial Mathematics at ECMI 2002  
VOLUME/PAGE/EDITOR: Mathematics in Industry 5, pp. 259-263,  
Eds. A. Buikis, R. Ciegis, A.D. Fitt - Springer, Berlin Heidelberg New York  
ISBN: 3-540-40113-X.  
PUBLICATION DATE: 2004
- 
- [ 5 ] AUTHORS: R. Escobedo, L. L. Bonilla, F. J. Higuera  
TITLE: *Problems of Charge and Spin Transport in Semiconductor Devices: Free Boundary Problems Describing Two-dimensional Pulse Recycling and Motion in Semiconductors*  
BOOK: Progress in Industrial Mathematics at ECMI 2002  
VOLUME/PAGE/EDITOR: Mathematics in Industry 5, pp. 259-263,  
Eds. A. Buikis, R. Ciegis, A.D. Fitt - Springer, Berlin Heidelberg New York  
ISBN: 3-540-40113-X.  
PUBLICATION DATE: 2004
- 
- [ 4 ] AUTHORS: V. Capasso, R. Escobedo, C. Salani  
TITLE: *Moving Bands and Moving Boundaries in an Hybrid Model for the Crystallization of Polymers*  
BOOK: Free Boundary Problems: Theory and Applications  
VOLUME/PAGE/EDITOR: International Series of Numerical Mathematics **147**, pp. 75-86  
Eds. P. Colli, C. Verdi, A. Visintin – Birkhäuser Verlag Basel/Switzerland  
ISBN: 978-3-7643-2193-2  
PUBLICATION DATE: 2004
- 
- [ 3 ] AUTHORS: L. L. Bonilla, R. Escobedo, F. J. Higuera  
TITLE: *Axisymmetric Gunn effect*  
BOOK: Proc. 25th Int. Conf. Phys. Semicond. (ICPS), Osaka-Japan (2000)  
VOLUME/PAGE/EDITOR: Springer Proceedings in Physics **87**, Vol. 1, pp. 135-136  
Eds. N. Miura and T. Ando, Springer – ISBN: 978-3-540-41778-1  
PUBLICATION DATE: 2001
- 
- [ 2 ] AUTHORS: M. Horstmann, J. Kienesberger, R. Escobedo, T. Nguyen, P. Porras  
TITLE: *Assimilation data in oceanography*  
BOOK: Proc. XII<sup>o</sup> European Consortium for Mathematics in Industry (ECMI) Modelling Week  
Trondheim University, Trondheim, Norway.  
VOLUME/PAGE/EDITOR: pp. 5.1-5.14, Ed. NTNU-Norwegian University of Science and  
Technology, Trondheim, Noruega  
PUBLICATION DATE: 1999
- 
- [ 1 ] AUTHORS: L. L. Bonilla, R. Escobedo, F. J. Higuera  
TITLE: *Two-dimensional Gunn effect*  
BOOK: Statistical and Dynamical Aspects of Mesoscopic Systems  
VOLUME/PAGE/EDITOR: Lecture Notes in Physics **547**, pp. 346  
Proc. XVI<sup>o</sup> Sitges Conf. on Statistical Mechanics, 7–11 June 1999, Sitges, Barcelona (Spain)  
Ed. D.Reguera, G. Platero, L.L. Bonilla, J.M.Rubí. Springer-Verlag Berlin Heidelberg New York  
ISBN 3-540-67478-0  
PUBLICATION DATE: 1999
-

## **OTHER PUBLICATIONS**

---

[ 6 ] AUTHORS: R. Escobedo, A. Laruelle  
TITLE: *Emergence of cooperation in heterogeneous population: a discrete-time replicator dynamics analysis*  
JOURNAL: Ikerlanak Discussion Paper IL57/11, Departamento de Fundamentos del Análisis Económico I, Basque Country University UPV-EHU, Bilbao, Spain

---

[ 5 ] AUTHORS: B. Paz, R. Escobedo  
TITLE: *Happy tail wagging: a laboratory artifact? Lateral tail wagging in the field*  
JOURNAL: [J. Vet. Behav.-Clin. Appl. Res. 6 \(2011\) 94](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 1.653 (2012)  
JOURNAL RANKING: Q1 Zoology, Q4 Behavior Sciences  
Nº CITES: 0

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[ 4 ] AUTHORS: C. Muro, I. Linaza, R. Escobedo  
TITLE: *Human numerical competence revealed by means of dog exercises*  
JOURNAL: [J. Vet. Behav.-Clin. Appl. Res. 4 \(2009\) 100](#)  
JOURNAL RANKED IN THE TOP 25% IN ITS CATEGORY ACCORDING TO IMPACT FACTOR  
IN THE YEAR OF PUBLICATION: YES  NO  IMPACT FACTOR: 1.653 (2012)  
JOURNAL RANKING: Q1 Zoology, Q4 Behavior Sciences  
Nº CITES: 0

---

[ 3 ] AUTHORS: R. Escobedo  
TITLE:  
BOOK: Memoria del Seminario del Departamento de Matemática Aplicada a los Recursos Naturales, Escuela Politécnica Superior de Ingenieros de Montes, Universidad Politécnica de Madrid.  
VOLUME/PAGE/EDITOR: Vol.3, R.E.1-4, Ed. Ana Luzón, Departamento de Matemática Aplicada a los Recursos Naturales, Escuela Politécnica Superior de Ingenieros de Montes, Univ. Politécnica de Madrid  
PUBLICATION DATE: 2001

---

[ 2 ] AUTHORS: R. Escobedo  
TITLE: *Dinámica de ondas no-lineales en muestras bidimensionales de n-GaAs*  
BOOK: Memoria del Seminario del Departamento de Matemática Aplicada a los Recursos Naturales, Escuela Politécnica Superior de Ingenieros de Montes, Universidad Politécnica de Madrid.  
VOLUME/PAGE/EDITOR: Vol.3, R.E.1-4, Ed. Ana Luzón, Departamento de Matemática Aplicada a los Recursos Naturales, Escuela Politécnica Superior de Ingenieros de Montes, Univ. Politécnica de Madrid  
PUBLICATION DATE: 2001

---

[ 1 ] AUTHORS: R. Escobedo  
TITLE: *Aspectos Prácticos del Análisis Numérico*  
BOOK: Memoria del Seminario del Departamento de Matemática Aplicada a los Recursos Naturales, Escuela Politécnica Superior de Ingenieros de Montes, Universidad Politécnica de Madrid.  
VOLUME/PAGE/EDITOR: Vol.1, R.E.1-34, Ed. A. Luzón, Departamento de Matemática Aplicada a los Recursos Naturales, Escuela Politécnica Superior de Ingenieros de Montes, Univ. Politécnica de Madrid  
PUBLICATION DATE: 1999

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## SCIENTIFIC VISITS AND VISITING POSITIONS

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INSTITUTION: CASPUR: Consorzio interuniversitario per le Applicazioni di Supercalcolo Per  
Università e Ricerca, Dipartimento di Matematica,  
Università "La Sapienza" Roma Tre

CITY: Rome COUNTRY: Italia YEAR: 2004, 1 week

TOPIC: Numerical methods for conservation laws

---

INSTITUTION: OCIAM: Oxford Center for Industrial and Applied Mathematics,  
Mathematical Institute, University of Oxford

CITY: Oxford COUNTRY: England YEAR: 2002, 1 week

TOPIC: Polymer processes modeling

---

INSTITUTION: MIRIAM: Milan Research Center for Industrial and Applied Mathematics,  
Dipartimento di Matematica "Federigo Enriques",  
Università degli Studi di Milano

CITY: Milan COUNTRY: Italia YEAR: 2001-2002, 1 year

TOPIC: Differential equations in Industry and commerce, polymer processing  
modellization

---

INSTITUTION: Departamento de Matemáticas, Universidad de Granada

CITY: Granada COUNTRY: Spain YEAR: 2001, 6 months

TOPIC: PhD program in Physics and Mathematics FISYMAT

---

INSTITUTION: CASPUR: Consorzio interuniversitario per le Applicazioni di Supercalcolo Per  
Università e Ricerca, Dipartimento di Matematica,  
Università "La Sapienza" Roma Tre

CITY: Roma COUNTRY: Italia YEAR: 2000, 2 months

TOPIC: Parallel computing and Supercomputation – Differential  
equations in Industry and Commerce

---

INSTITUTION: Department of Mathematical Sciences,  
NTNU – Norwegian University of Science and Technology

CITY: Trondheim COUNTRY: Norway YEAR: 1999, 10 days

TOPIC: Data Assimilation in Oceanography, 12th ECMI Modelling Week

---

## CONFERENCES

- 
- [21]** AUTHORS: R. Escobedo, L. A. Fernández  
TITLE: *A Free Boundary Problem for Polymer Crystallization in Axisymmetric Samples*  
PRESENTATION: Poster  
CONFERENCE: CMMSE 2011: 11<sup>TH</sup> Int. Conf. on Comput. and Math. Meth. in Sci. and Engin.  
PUBLICATION: Conference proceedings  
LOCATION: Benidorm, Alicante – Spain  
DATE: 26–29 June 2011
- 
- [20]** AUTHORS: R. Escobedo, L. A. Fernández  
TITLE: Optimal Cooling Strategies in Polymer Crystallization  
PRESENTATION: Poster  
CONFERENCE: CMMSE 2010: 10<sup>TH</sup> Int. Conf. on Computational and Mathematical Methods in Science and Engineering  
PUBLICATION: Conference proceedings  
LOCATION: Almería, Andalucía – Spain  
DATE: 26–30 June 2010
- 
- [19]** AUTHORS: R. Escobedo, L. A. Fernández  
TITLE: A Stefan problem for a deterministic polymer crystallization model  
PRESENTATION: Oral In Minisymposium  
CONFERENCE: SIMAI 2010 Conference  
Joint SIMAI/SEMA Conf. in Applied and Industrial Mathematics  
PUBLICATION: Pendiente  
LOCATION: Cagliari, Sardegna – Italia  
DATE: 21–25 June 2010
- 
- [18]** AUTHORS: R. Escobedo, M. Carretero, L. L. Bonilla, G. Platero  
TITLE: Phase diagrams and switching of voltage and magnetic field in dilute magnetic semiconductor nanostructures  
PRESENTATION: Poster  
CONFERENCE: TNT 2009 – Trends in Nanotechnology  
PUBLICATION: Phys. Status Solidi RRL (Rapid Research Letter), 3-4 (2010) 76-78  
LOCATION: Barcelona, Cataluña – Spain  
DATE: 07–11 September 2009
- 
- [17]** AUTHORS: R. Escobedo, L. A. Fernández  
TITLE: Optimal control of chemical birth and growth processes in a deterministic model  
PRESENTATION: Poster  
CONFERENCE: CMMSE 2009 – 9<sup>TH</sup> Int. Conf. on Computational and Mathematical Methods in Science and Engineering  
PUBLICATION: Conference proceedings  
LOCATION: Gijón, Asturias – Spain  
DATE: 30 June – 3 July 2009
- 
- [16]** AUTHORS: R. Escobedo, M. Carretero, L. L. Bonilla, G. Platero  
TITLE: Relocation Dynamics during Voltage Switching in Spin-Polarized Superlattices  
PRESENTATION: Poster  
CONFERENCE: ECMI 2008: Conf. of The European Consortium For Mathematics In Industry 2008  
PUBLICATION: Progress in Industrial Mathematics at ECMI 2008, ISBN: 978-3-642-12109-8  
LOCATION: University Collage London, London – UK  
DATE: 30 June – 04 July 2008
- 
- [15]** AUTHORS: R. Escobedo, M. Carretero, L. L. Bonilla, G. Platero  
TITLE: Self-Sustained Current Oscillations in a MultiQuantum Well Spin Polarized Structure with Normal Contacts  
PRESENTATION: Poster  
CONFERENCE: TNT 2007 – Trends in Nanotechnology  
PUBLICATION: Phys. Stat. Sol. (a) 205, No. 6 (2008) 1270-1275  
LOCATION: San Sebastian, Guipuzcoa – Spain  
DATE: 03–07 September 2007
-

---

<b>[14]</b> AUTHORS:	R. Escobedo
TITLE:	Un modelo determinista de cristalización de polímeros
PRESENTATION:	Oral
CONFERENCE:	<i>Las Ecuaciones en Derivadas Parciales como herramienta: Modelización, Análisis y Simulación</i>
PUBLICATION:	--
LOCATION:	Castro, Cantabria – Spain
DATE:	16–17 Abril 2007

---

<b>[13]</b> AUTHORS:	R. Escobedo, L. L. Bonilla
TITLE:	Quantum drift-diffusion equations for semiconductor superlattices
PRESENTATION:	Poster
CONFERENCE:	Recent advances in nonlinear partial differential equations and applications
PUBLICATION:	Proc. of Minisymposia, American Mathematical Society. ISBN-13: 978-0-8218-4211-9
LOCATION:	Palacio Lorenzana, Toledo – Spain
DATE:	07–10 June 2006

---

<b>[12]</b> AUTHORS:	R. Escobedo
TITLE:	<i>A CFL-like Constraint for Fast Marching Level Sets Methods in Evolution Problems</i>
PRESENTATION:	Poster
CONFERENCE:	<i>Math Everywhere</i>
PUBLICATION:	Abstracts of the conference
LOCATION:	Milán – Italia
DATE:	04–06 September 2005

---

<b>[11]</b> AUTHORS:	R. Escobedo, L. L. Bonilla
TITLE:	Numerical methods for a quantum drift-diffusion equation in semiconductor physics
PRESENTATION:	Poster
CONFERENCE:	CMMSE 2005: 5 <sup>TH</sup> Int. Conf. on Comput. and Math. Meth. in Sci. and Engineering
PUBLICATION:	Conference proceedings
LOCATION:	Alicante – Spain
DATE:	27–30 June 2005

---

<b>[10]</b> AUTHORS:	R. Escobedo
TITLE:	<i>A CFL-like Constraint for Fast Marching Level Sets Methods in Free Boundary Problems</i>
PRESENTATION:	Oral, in Discussion Session “Numerical Methods for Free Boundary Problems”
CONFERENCE:	Free Boundary Problems, Theory and Applications
PUBLICATION:	Proceedings of the conference
LOCATION:	Coimbra – Portugal
DATE:	09 June 2005

---

<b>[ 9 ]</b> AUTHORS:	R. Escobedo , V. Capasso
TITLE:	<i>Moving Bands and Boundaries with Decreasing Speed in Polymer Crystallization</i>
PRESENTATION:	Oral en minisymposium “Differential Equations in Industry and Commerce”
CONFERENCE:	Intern. Conf. European Consortium for Mathematics in Industry (12th ECMI Conf.)
PUBLICATION:	Proceedings of the conference
LOCATION:	Jurmala – Latvia (Letonia)
DATE:	13 September 2002

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<b>[ 8 ]</b> AUTHORS:	R. Escobedo, L. L. Bonilla, F. J. Higuera
TITLE:	<i>Free Boundary Problems Describing Two-dimensional Pulse Recycling and Motion in Semiconductors</i>
PRESENTATION:	Oral In minisymposium “ <i>Problems of Charge and Spin Transport in Semiconductor Devices</i> ”
CONFERENCE:	Intern. Conf. European Consortium for Mathematics in Industry (12th ECMI Conf.)
PUBLICATION:	Proceedings of the conference
LOCATION:	Jurmala – Latvia (Letonia)
DATE:	14 September 2002

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- [ 7 ] AUTHORS: R. Escobedo, V. Capasso  
TITLE: *Free boundary problems in polymer science*  
PRESENTATION: Poster  
CONFERENCE: Intern. Conference Free Boundary Problems: Theory and Applications (FBP2002)  
PUBLICATION: Proceedings of the conference  
LOCATION: Trento – Italia  
DATE: 5–8 June 2002
- 
- [ 6 ] AUTHORS: R. Escobedo  
TITLE: A free boundary problem for a multidimensional drift-diffusion model in semiconductor physics  
PRESENTATION: Oral  
CONFERENCE: Euroconference on Asymptotics Methods and Applications in Kinetic and Quantum-Kinetic Theory  
PUBLICATION: Abstracts of the conference  
LOCATION: Granada – Spain  
DATE: 17 Octubre 2001
- 
- [ 5 ] AUTHORS: R. Escobedo, L. L. Bonilla  
TITLE: *Recycling and Motion of Axisymmetric Electric Field Domains in Bulk Semiconductor*  
PRESENTATION: Poster  
CONFERENCE: First SIAM/EMS Conf. “Appl. Math. in our Changing World”  
PUBLICATION: Proceedings of the conference  
LOCATION: ZIB, Berlín – Germany  
DATE: 02–06 September 2001
- 
- [ 4 ] AUTHORS: R. Escobedo, L. L. Bonilla  
TITLE: *Wave Dynamics in two-dimensional samples of n-GaAs with point contacts*  
PRESENTATION: Poster  
CONFERENCE: Int. Conf. in Applied Non-linear Dynamics: from Semiconductors to Information Technologies  
PUBLICATION: Proceedings of the conference  
LOCATION: Thessaloniki – Greece  
DATE: 27–30 August 2001
- 
- [ 3 ] AUTHORS: R. Escobedo, L. L. Bonilla  
TITLE: *Wave Dynamics in two-dimensional samples of n-GaAs with point contacts*  
PRESENTATION: Poster  
CONFERENCE: Reunión Nacional de Física del Estado Sólido, RSEF – CSIC  
PUBLICATION: Abstracts of the conference  
LOCATION: Madrid – Spain  
DATE: 7–9 February 2001
- 
- [ 2 ] AUTHORS: L. L. Bonilla, R. Escobedo, F. J. Higuera  
TITLE: *Axisymmetric Gunn Effect*  
PRESENTATION: Poster  
CONFERENCE: XXV° International Conference on Physics of Semiconductors  
PUBLICATION: Proceedings of the conference  
LOCATION: Osaka – Japan  
DATE: 14–19 September 2000
- 
- [ 1 ] AUTHORS: R. Escobedo, , L. L. Bonilla, F. J. Higuera  
TITLE: *Two-dimensional Gunn effect*  
PRESENTATION: Poster  
CONFERENCE: XVI° Sitges Europhysics Conf. on Stat. Mech.: Stat. And Dynamical Aspects of Mesoscopic Systems  
PUBLICATION: Proceedings of the conference  
LOCATION: Sitges, Barcelona – Spain  
DATE: 5–8 June 1999
-



## OTHERS

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- **Profesor Contratado Doctor:** Evaluación positiva de la ANECA, 20 Junio 2005
  - **Profesor Ayudante Doctor:** Evaluación positiva de la ANECA, 01 Octubre 2003
- 

- **Organización de un Congreso Científico Internacional:**

TÍTULO: 5th European Society of the Mathematical and Theoretical Biology International Conference (ECMTB) "Mathematical Modelling & Computing in Biology and Medicine"  
(aproximadamente 600 participantes)

ÁMBITO: Internacional

LUGAR: Milán, Italia

FECHA: 2-6 Julio 2002

---

### Utilización de grandes equipos de computación:

- *Exemplar Parallel Computer (8 procesadores)*

Universidad Carlos III de Madrid

- *Alpha Servers/Stations, SUN HPC Servers/Stations, IBM SP3, IBM RS/6000, StorageTek, etc...*

Consorzio interuniversitario per le aplicación di Supercalcolo Per Università e Ricerca, Università "La Sapienza", Roma, Italia

---

- **Coordinator of the JOINT ACTION (Socrates, Leonardo da Vinci and Youth) 119565-JA-1-2004, EUROPEAN COMMISSION – 270,000 €. Contract duration: 24 months**

( [ec.europa.eu/youth/archive/program/comp\\_ja\\_2004.pdf](http://ec.europa.eu/youth/archive/program/comp_ja_2004.pdf) )

"Programa de Formación de Adiestradores de Perros de Asistencia, especialmente dirigido a Personas con Discapacidad."

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  - More than **65** speakers from **11** European countries
  - More than **500** participants in the three countries
  - Edition of around **20** books and journals (in three languages)
- 

- **Secondary School Professor**

(on voluntary leave for particular interest since 1996)

**(Funcionario del Cuerpo de Profesores de Enseñanza Secundaria, 1993)**

---

- **Author of the photography of Peter Lax (Abel Prize 2005)**

Book: Recent Advances in Nonlinear PDEs and Applications

Proceedings of Symposia in Applied Mathematics **65** (2007)

Eds. L. L. Bonilla, A. Carpio, J. M. Vega, S. Venakides

ISBN: 978-0-8218-4211-9

Peter Lax

