

Dr Susana Gutierrez BSc, PhD

Lecturer

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About

Susana Gutierrez has published a number of research papers in leading international journals. She delivers invited talks at conferences, workshops and seminars at both local and international level.

Qualifications

- PhD in Mathematics, University of the Basque Country, 2000
- MSci in Mathematics, University of the Basque Country, 1998
- BSc in Mathematics, University of the Basque Country, 1995

Biography

Dr. Gutierrez qualified with a MSci in Mathematics from the University of the Basque Country (Spain) in 1998, and received her PhD in Mathematics from the same institution in 2000. In 2007, after holding several postdoctoral positions at different European universities, she joined the School of Mathematics at the University of Birmingham as a Lecturer.

Teaching

- Single Honours Mathematics (G100, G103, G141)
- Mathematics Majors: Mathematics with Business Management (G1N2); Mathematics with Engineering (J920); Mathematics with Philosophy (G1V5)
- Joint Honours Mathematics: Mathematics & Computer Science (GG14); Pure Mathematics & Computer Science (GGC4); Mathematics & Sport Science (GC17); Mathematics & Music (GW13); Mathematics & Philosophy (GV15)
- Theoretical Physics and Applied Mathematics (FG31)
- Mathematics Minors: French Studies and Mathematics (GR11); German Studies and Mathematics (GR12)
- Natural Sciences (CFG0, FCG0)

Research

RESEARCH THEMES

- Euclidean Harmonic Analysis
- Partial Differential Equations
- Singularity Formation Phenomena.

RESEARCH ACTIVITY

Susana's research interests lie in a variety of aspects of euclidean harmonic analysis, with particular emphasis on applications to partial differential equations, and in different physical phenomena leading to singularity formation in curve flows.

Other activities

- Member of the London Mathematical Society.

Publications

Selected:

Gutierrez, S., Rivas, J. and Vega, L. (2003), Formation of singularities and self-similar vortex motion under the localized induction approximation, Communications in Partial Differential Equations, Vol 28, no 5&6, 927-968.

Gutierrez, S. and Vega, L. (2004) Self-similar solutions of the localized induction approximation: singularity formation, *Nonlinearity*, Vol 17, no 6, 2091-2136.

Bournaveas, N. and Gutierrez, S (2007) On the regularity of the averages over spheres for kinetic transport equations in hyperbolic Sobolev spaces, *Revista Matematica Iberoamericana*, Vol 23, no 2, 481-512.

Bournaveas, N., Calvez, V., Gutierrez, S. and Perthame, B. (2008) Global existence for a kinetic model of chemotaxis via dispersion and Strichartz estimates, *Communications in Partial Differential Equations*, Vol 33, Issue 1, 79-95.

Bennett, J., Bez, N., Gutierrez, S., Global nonlinear Brascamp-Lieb inequalities, to appear in the *Journal of Geometric Analysis*.

Blennett, J., Bez, N., Gutierrez, S., Transversal multilinear Radon-like transforms: local and global estimates, preprint.

Gutierrez, S., Vega, L., On the stability of self-similar solutions of 1D cubic Schrödinger equations, preprint.

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