Guillaume Warnault

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39 years old.
French.

Professional Experiences

Since 2010: **Assistant professor** at Université de Pau et des Pays de l'Adour (Pau, France).

2009–2010: **Tenure-track Assistant Professor** at Université François Rabelais (Tours, France).

- Scientific exchange at University of Purdue, Lafayette (Indiana, USA) having for topic "Waterwaves model with a nonlocal viscous dispersive term".

2006–2009: **PhD in mathematics**, at Université Picardie Jules Verne (Amiens, France).

- Thesis : "Stable solutions for elliptic semilinear PDEs involving the biharmonic operator" defended the 25/09/09, advisors L. Dupaigne and A. Farina.
- Predoctoral position in Center For Mathematical Modeling, Universidad de Chile (Santiago, Chile) and at Politecnico di Milano (Milan, Italy).

Research interests

- Nonlinear partial differential equations;
- Parabolic and elliptic equations involving an inhomogeneous operator;
- Bilaplacian operator;
- Blow-up solutions.

Scientific responsibilities

- Leader of the international research program PHC Ulysses 2012 and 2014 ;
- Co-organizer of a weekly workshop in analysis from 2010 to 2015 ;
- Co-organiser of the twelfth and the thirteenth International Conference Zaragoza-Pau on Mathematics (Jaca, Spain);
- Co-organizer of the third summer school entitled Analysis of PDEs (Jaca, Spain).
- Member of the project "Singular phenomena in elliptic ad parabolic equations-II" funded by the Indo-french agency IFCAM.

Administrative responsibilities

- Since 2012: Member of the laboratory council;
- Since February 2023 : Year manager of the Master 1 Mathematics, modelling and Simulation (MMS).
- From 2015 to 2022 : Member of the experts committee;
- From 2019 to 2023: Year manager of the Licence 2 Mathématiques et Informatique Appliquées aux Sciences Humaines et Sociales (MIASHS).

Student supervisions

2017–2020: Co-Supervision of a PhD candidate (Rakesh Arora) at Université de Pau et des Pays de l'Adour (Pau, France).

From 2015: Supervisions of several Master thesis on the topic of PDEs Analysis or functional analysis at Université de Pau et des Pays de l'Adour (Pau, France).

From march 2023: : Co-Supervision of a research internship for a student in Master 2 MMS) at Université de Pau et des Pays de l'Adour (Pau, France).

Publications

- **Asymptotic behavior of blowing-up radial solutions for quasilinear elliptic systems arising in the study of viscous, heat conducting fluids** (with A. Bachir and J. Giacomoni), Differential and Integral Equations, 2022.
- **Regularity results for a class of nonlinear fractional Laplacian and singular problems** (with R. Arora and J. Giacomoni), NoDEA Nonlinear Differential Equations Appl., 2021.
- **Doubly nonlinear equation involving p(x)-homogeneous operators: local existence, uniqueness and global behaviour** (with R. Arora and J. Giacomoni), J. Math. Anal. Appl., 2020.
- **A Picone identity for variable exponent operators and applications** (with R. Arora and J. Giacomoni), Adv. Nonlinear Anal.,2020.
- **Quasilinear parabolic problem with variable exponent: qualitative analysis and stabilization** (with J. Giacomoni and V. Radulescu), Communications in Contemporary Mathematics, 2018.
- **Existence and global analytic bifurcation for singular biharmonic equation with Navier boundary condition** (with J. Giacomoni and S. Prashanth), Proc. Amer. Math. Soc. 145, 2017.
- **Quasilinear parabolic problem with $p(x)$-laplacian: existence, uniqueness of weak solutions and stabilization** (with J. Giacomoni and S. Tiwari), NoDEA Nonlinear Differential Equations Appl., 2016.
- **The Gel'fand problem for the biharmonic operator** (with L. Dupaigne, M. Ghergu and O. Goubet), Arch. Ration. Mech. Anal., 2013.
- **Entire Large Solutions for Semilinear Elliptic Equations** (with L. Dupaigne, M. Ghergu and O. Goubet), J. Differential Equations, 2012.
- **Liouville theorems for stable radial solutions for the biharmonic operator**, Asymptot. Anal., 2010.
- **Decay of solutions to a linear viscous asymptotic model for water waves** (avec O. Goubet), Chin. Ann. Math., 2010.
- **Regularity of the extremal solution for a biharmonic problem with general nonlinearity**, Commun. Pure Appl. Anal. 8, 2009.
- **On solutions for second and fourth order elliptic equations with power-type nonlinearities** (with A. Ferrero), Nonlinear Anal., 2009.