UNIVERSITÀ DEGLI STUDI DELL'AQUILA
CORSI DI INGEGNERIA

Prof. Mariapia Palombaro
Curriculum scientifico

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Short CV

Department of Information Engineering, Computer Science and Mathematics,
University of L?Aquila (Italy)

Department of Information Engineering, Computer Science and Mathematics,
University of L?Aquila (Italy)

? January 2012 - August 2012: Post-doctoral fellowship at the University of Würzburg (Germany)

? January 2005 - August 2005: Post-doctoral fellowship at the CMAP, Ecole Polytechnique (France)

?2000-2004: PhD student in Mathematical Analysis at Università "La Sapienza", Rome (Italy)

?Calculus of Variations and Partial Differential Equations

2000-2004: Undergraduate studies in Mathematics at Università "La Sapienza", Rome (Italy)

Research Interests

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Homogenization

Applications in materials science

Publications

1. M. Palombaro, M. Ponsiglione: The three divergence free matrix fields problem,*Asymptotic Analysis* 40(1) (2004), 37?49.

2. G. Allaire, M. Palombaro: Localization for the Schrodinger equation in a locally periodic medium, *SIAM J. Math. Anal.* 38 (2006), no. 1, 127?142.

3. S. Müller, M. Palombaro: Existence of minimizers for a polyconvex energy in a crystal with dislocations, *Calc. Var. Partial Differential Equations* 31 (2008), no. 4, 473?482.

4. G. Allaire, M. Palombaro, J. Rauch: Diffractive behavior of the wave equation in periodic media: weak convergence analysis,*Ann. Mat. Pura Appl.* 188 (2009) no. 4,561?589.

5. M. Palombaro, V. P. Smyshlyaev: Relaxation of three solenoidal wells and characterization of three-phase***H***-measures,*Arch. Rational Mech. Anal.*194 (2009), no. 3,775?822.

6. M. Palombaro: Rank-(n ?1) convexity and quasiconvexity for divergence free fields,*Advances in Calculus of Variations* 3 (2010), no. 3,279?285.

7. G. Allaire, M. Palombaro, J. Rauch: Diffractive geometric optics for Bloch wave packets, *Arch. Rational Mech. Anal.* 202 (2011), 373?426.

8. S. Müller, M. Palombaro: Derivation of a rod theory for biphase materials with dislocations at the interface. To appear on*Calc. Var. Partial Differential Equations*(published online: August 2012).

9. S. Müller, M. Palombaro: On a differential inclusion related to the Born-Infeld equation. To appear on*SIAM J. Math. Anal.* (http://arxiv.org/abs/1201.4244).

10. V. Nesi, M. Palombaro, M. Ponsiglione:Gradient integrability and rigidity results for two-phase conductivity in dimension two.

To appear on*Ann. Inst. H. Poincare, Anal. Non Lineaire.*

11. G. Allaire, M. Palombaro, J. Rauch: Diffraction of Bloch wave packets for Maxwell?s equations. To appear on*Communications in Contemporary Mathematics* (http://arxiv.org/abs/1202.6549).

12. G. Allaire, M. Palombaro, J. Rauch: A bound on group velocity for Bloch wave packets. Preprint 2012 (http://arxiv.org/abs/1203.0218).

13. G. Lazzaroni, M. Palombaro, A. Schlomerkemper: A discrete to continuum analysis of dislocations in nanowires heterostructures. Preprint 2013 (http://arxiv.org/abs/1308.3505).