

Scientific Publications of Nicolas Meunier

- [1] H. LE DRET and N. MEUNIER, *Heterogeneous wires made of martensitic materials*, C. R. Math. Acad. Sci. Paris, 337 (2), 143–147 (2003).
- [2] H. LE DRET and N. MEUNIER, *Modeling heterogeneous martensitic wires*, Math. Models Methods Appl. Sci., 15 (3), 375–406 (2005).
- [3] N. MEUNIER and J. VAN SCHAFTINGEN, *Reiterated homogenization for elliptic operators*, C. R. Acad. Sci. Paris, 340 (3), 209–214 (2005).
- [4] N. MEUNIER and J. VAN SCHAFTINGEN, *Reiterated homogenization for elliptic functions*, J. Math. Pures Appl., 84 (12), 1716–1743 (2005).
- [5] B. MAURY, N. MEUNIER and L. VIAL, *Outlet dissipative conditions for air flow in the bronchial tree*, ESAIM : Proceedings, 14 (CEMRACS 2004–Mathematics and applications to biology and medicine), 201–212 (2005).
- [6] J.J. MARIGO and N. MEUNIER, *Hierarchy of one-dimensional models in nonlinear elasticity*, J. Elasticity, 83 (1), 1–28 (2006).
- [7] C. GRANDMONT, B. MAURY and N. MEUNIER, *A viscoelastic model with non-local damping application to the human lungs*, Math. Model. Numer. Anal., 40 (1), 201–224 (2006).
- [8] N. MEUNIER and E. SANCHEZ-PALENCIA, *Sensitive versus classical singular perturbation problem via Fourier transform*, Math. Models Methods Appl. Sci., 16 (11), 1783–1816 (2006).
- [9] N. MEUNIER, J. SANCHEZ-HUBERT and E. SANCHEZ-PALENCIA, *Various kinds of sensitive singular perturbations*, Ann. Math. Blaise Pascal, 14 (2), 199–242 (2007).
- [10] Y. EGOROV, N. MEUNIER and E. SANCHEZ-PALENCIA, *Rigorous and heuristic treatment of certain sensitive singular perturbations*, J. Math. Pures Appl. 88 (2), 123–147 (2007).
- [11] N. MEUNIER and E. SANCHEZ-PALENCIA, *Integral approach to sensitive singular perturbations*, Integral methods in science and engineering. Vol. 1, Birkhauser Boston, Inc., Boston, MA, 217–234 (2010).
- [12] Y. EGOROV, N. MEUNIER and E. SANCHEZ-PALENCIA, *Rigorous and heuristic treatment of sensitive singular perturbations arising in elliptic shells*, Around the research of Vladimir Maz’ya. II, Int. Math. Ser. (N. Y.), 12, Springer, New York, 159–202 (2010).
- [13] A. DAMLAMIAN, N. MEUNIER and J. VAN SCHAFTINGEN, *Periodic homogenization of monotone multivalued operators*, Nonlinear Anal., 67 (12), 3217–3239 (2007).
- [14] N. MEUNIER, *Recursive description of one-dimensional models from three-dimensional nonlinear elasticity*, Math. Mech. Solids, 13 (2), 172–194 (2008).

- [15] B. MAUROY and N. MEUNIER, *Poiseuille flow in a finite elastic dyadic tree*,
Math. Model. Numer. Anal., 42 (4), 507–533 (2008).
- [16] A. DAMLAMIAN, N. MEUNIER and J. VAN SCHAFTINGEN, *Periodic homogenization for convex functionals using Mosco convergence*,
Ricerche Mat., 57 (2), 209–249 (2008).
- [17] V. CALVEZ, A. EBDE, N. MEUNIER and A. RAOULT, *Mathematical modelling of the atherosclerotic plaque formation*,
ESAIM : Proceedings, 28 (CEMRACS 2008–Modelling and numerical simulation of complex fluid), 1–12 (2009).
- [18] V. CALVEZ, J.G. HOUOT, N. MEUNIER and A. RAOULT, *Mathematical modelling of earliest stage of atherosclerosis*,
Proceedings, COMPDYN – SEECOM, (2009).
- [19] A. DAMLAMIAN and N. MEUNIER, *The "strange term" in the periodic homogenization for multivalued Leray-Lions operators in perforated domains*,
Ricerche Mat., 59 (2), 281–312 (2010).
- [20] N. FILIPOVIC, N. MEUNIER, D. FOTIADIS, and M. KOJIC, *PAK Athero, Specilized three dimensional PDE software for siulation of plaque formation and development inside the arteries*, University of Kragujevac, Serbia, (2010).
- [21] N. FILIPOVIC, N. MEUNIER, M. BOYNARD, M. KOJIC and D. FOTIADIS, *A 3D computer simulation of plaque formation and development in coronary artery*, Proceeding of ASME 2010 first global congress on nanoengineering for medecine and biology (NEMB 2010).
- [22] N. FILIPOVIC, N. MEUNIER, M. BOYNARD, O. PARODI and M. KOJIC, *Three dimensional computer simulation of plaque formation in arteries*, Computational surgey conference, Houston (2011).
- [23] N. FILIPOVIC, N. MEUNIER, M. KOJIC, V. ISAILOVIC, M. RADOVIC, Z. MILOSEVIC, D. NIKOLIC, D. MILASINOVIC, T. EXARCHOS, O. PARODI and D. FOTIADIS, *Computer Simulation of Plaque formation and Development*, IEEE (2011).
- [24] N. MEUNIER, O. PANTZ and A. RAOULT, *Elastic limit of square lattices with three point interactions*,
Math. Models Methods Appl. Sci., 22 (11), 32–53 (2012).
- [25] V. CALVEZ, N. MEUNIER and R. VOITURIEZ, *A one-dimensional Keller-Segel equation with a drift issued from the boundary*,
C. R. Math. Acad. Sci. Paris, 348 (11-12), 629–634 (2010).
- [26]] V. CALVEZ, R.J. HAWKINS, N. MEUNIER and R. VOITURIEZ, *Analysis of a non local model for spontaneous cell polarisation*,
SIAM J. Appl. Math. 72 (2), 594–622 (2012).
- [27]] V. CALVEZ, N. MEUNIER, N. MULLER and R. VOITURIEZ, *Numerical simulations of the dynamics of molecular markers involved in cell polarisation*,
Integral methods in science and engineering, progress in numerical and analytical studies. Birkhauser Boston, Inc., Boston, MA, 75–89 (2013).
- [28] J. DAMBRINE, B. MAURY, N. MEUNIER and A. ROUDNEFF-CHUPIN, *A congestion model for cell migration*,
Commun. Pure Appl. Anal., 11 (1), 1–18 (2012).
- [29] O. BÉNICHOU, N. MEUNIER, S. REDNER and R. VOITURIEZ, *Non-Gaussianity and dynamical trapping in locally activated random walks*,
Phys. Rev. E Stat. Nonlin. Soft Matter Phys 85, (2012).
- [30] O. BÉNICHOU, V. CALVEZ, N. MEUNIER and R. VOITURIEZ, *Front acceleration by dynamic selection in Fisher population waves*,
Phys. Rev. E Stat. Nonlin. Soft Matter Phys 86, (2012).

- [31] E. BOUIN, V. CALVEZ, N. MEUNIER, S. MIRRAHIMI, B. PERTHAME, G. RAOUL and R. VOITURIEZ, *Invasion fronts with variable motility : Phenotype selection, spatial sorting and wave acceleration*, C. R. Acad. Sci. Paris, 350 (15-16), 761–766 (2012).
- [32] T. LEPOUTRE, N. MEUNIER and N. MULLER, *Cell polarisation model : the 1D case*, J. Math. Pures Appl. (9), 101(2) :152-171, (2014).
- [33] C. ETCHEGARAY, B. GREC, B. MAURY, N. MEUNIER and L. NAVORET, *An integro-differential equation for 1D cell migration*, Integral methods in science and engineering, progress in numerical and analytical studies. Birkhauser Boston, Inc., Boston, MA, 75–89 (2015).
- [34] N. MULLER, M. PIEL, J. GONÇALVES-SÁ, C. GUO, X. JIANG, V. CALVEZ, R. VOITURIEZ, A. MURRAY and N. MEUNIER, *A predictive model for yeast cell polarization submitted to pheromone gradients*, PLoS Compt Biol. Apr 14;12(4) (2016).
- [35] B. GREC, B. MAURY, N. MEUNIER and L. NAVORET, *A 1D model of leukocyte adhesion coupling bond dynamics with blood velocity*, to appear Journal of Theoretical Biology.
- [36] C. ETCHEGARAY, N. MEUNIER and R. VOITURIEZ, *Analysis of a non-local and non-linear Fokker-Planck model for cell migration*, to appear SIAM Journal on Applied Mathematics (SIAP).
- [37] N. MEUNIER, C. MOUHOT and R. ROUX, *Long time behavior in locally activated random walks*, to appear
- [38] C. ETCHEGARAY and N. MEUNIER, *Numerical solutions of a 2D fluid problem coupled to a nonlinear non-local reaction-advection-diffusion problem for cell crawling migration in a discoidal domain*, to appear Biomath Proceedings.
- [39] C. ETCHEGARAY and N. MEUNIER, *Crawling migration under chemical signalling : a stochastic model*, to appear Mathematical Methods in the Applied Sciences.
- [40] C. ETCHEGARAY and N. MEUNIER, *A stochastic model for protrusion activity*, to appear ESAIM Proceedings.