



Editorial

Foreword



Instabilities and nonlinear effects are ubiquitous in condensed matter physics. A rich variety of observable phenomena, such as phase transitions, non-equilibrium patterns, mechanical growth, and morphogenesis can be described and understood in a unified formalism often involving nonlinear equations.

This special issue of IJNLM is the *Festschrift* celebrating the 60th birthday of Martine Ben Amar. A selected number of researchers, all in close personal and scientific contact with Martine, have been invited to contribute to this themed issue pertaining to instabilities and nonlinearities in fluids and soft matter. They are in alphabetical order: D. Ambrosi, P. Biscari, A.-M. Cazabat, P. Ciarletta, L.J. Cummings, M. Destrade, R. De Vita, J.-B. Fournier, A. Goriely, M.M. Müller, O.V. Manyuhina, S. Neukirch, Y. Pomeau, L. Preziosi and G. Pucci. It is because of the quality of their efforts, and that of their collaborators, that this volume not only meets its purpose of registering homage to the honoree, but also offers – in our opinion – a broad collection of papers that ranges from fluids to living matter. We are grateful to professor Anne-Marie Cazabat, from Ecole Normale Supérieure, for the following quote encapsulating professor Ben Amar's oeuvre

Besides her internationally recognized research in the field of non linear theory, hydrodynamics and morphogenesis, she contributed in a significant way to high-level university teaching. She involved herself in the structuring of the second year of master, both at the Ecole Normale Supérieure and at the Pierre and Marie Curie University, developing the field of soft matter and complex systems through theoretical, as well as experimental and applied courses. In these fields, she played a major role in the organization of international masters, with joint courses involving ENS and other French Grandes Ecoles, and several Paris Universities. Martine's field of competence is wide: from dendritic or fractal growth to fracture and crumpling, moving contact lines, complex fluid rheology, physics of the cellular membrane, morphogenesis and growth of soft tissues, leaves and flowers as well as skin tumors.

Finally, thanks are of course due to all the contributors and reviewers for their patience and efficiency in meeting the requirements of a rigorous and time-constrained review process.

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Publications list of Professor Martine Ben Amar, Laboratoire de Physique Statistique, Ecole Normale Supérieure

On peer reviewed journals

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