

## EDITORIAL

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Fractality and fractionality became a dynamic research topic during the last decades. The reason is that these notions, referring to self-similarity and irregularity, are encountered everywhere both in applied areas, such as geophysics, fluid mechanics, crystallography, astronomy, biology, chemistry, medicine, electronics, and in various mathematical areas: number theory, geometry, dynamical systems, probability theory etc. The notion “fractality” is usually employed when the fractal behavior manifests itself statically, as spatial self-similarity property of the objects of systems involved in the research. The word “fractionality” is a dynamical counterpart of this notion, referring to the fractal evolution of individual agents in some macroscopic collections. Multifractality and multifractionality, which further extend these two notions, are used to describe objects, dynamical systems, and phenomena, whose self-similarity properties are present only locally and varying with respect to time, space, or scale.

At the present time, there are different fields of mathematics studying fractality and fractionality: fractional calculus, fractal analysis, fractional dynamical systems, stochastic fractional analysis, multifractal analysis etc. Motivated by the numerous applications, the variety of problems occur, and the techniques are constantly developing. The dedicated conferences and journals help to keep up with the rapid development of the fields and to disseminate the results and ideas quickly.

Given all of the above, we decided to dedicate the most part of the current issue of our journal to fractionality and related topics and invited specialists in this area. We are thankful to all contributors for submitting their newest research results. In the list below we introduce the authors of the of “fractional” part of the present issue, together with short descriptions of their research interests.

**Vo V. Anh** is currently a Visiting Distinguished Professor in the School of Mathematics and Computational Science, Xiangtan University, Hunan, China. Research interests: fractional processes and random fields, stochastic analysis and modelling, financial mathematics. Author of more than 250 research papers and 1 edited book.

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**Dario Gasbarra** is lecturer at the Department of Mathematics and Statistics of the University of Helsinki (Finland). He has authored 36 publications in the fields stochastic analysis, mathematical finance and statistics.

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**Francesco Mainardi** is a retired professor of Mathematical Physics from the University of Bologna (since November 2013 at the age of 70) where he has taught this course for 40 years. Even being retired, he continues to carry out teaching and research activity. His fields of research concern several topics of applied mathematics, including diffusion and wave problems, asymptotic methods, integral transforms, special functions, fractional calculus and non-Gaussian stochastic processes. At present his h-index is more than 50.

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