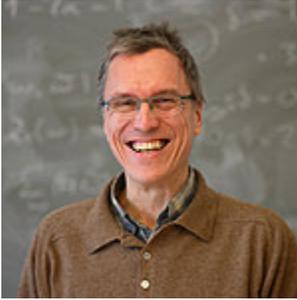


# Personnel

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### Senior researchers



**Antti Kupiainen** (HU) is Academy Professor for the second five year term, and also a Distinguished Visiting Professor of Rutgers University (USA). Kupiainen is an internationally renowned expert in mathematical physics who has pioneered the use of renormalization group in rigorous quantum field theory, random systems, PDE's and dynamics. His recent accomplishments include the proof of ergodicity of the two dimensional stochastic Navier-Stokes dynamics, the first proof of anomalous

scaling in a turbulent system and a new approach to the KAM theorem.

Kupiainen was an invited speaker at the International Congress of Mathematicians (ICM-1990) and received the Finnish Cultural Foundation prize of recognition in 2004. He serves on the editorial boards of several major journals and in scientific advisory boards of international institutions. ([Home page](#))



Professor **Kari Astala** (HU) is appointed as Academy Professor starting in 2006. Astala is an expert in quasiconformal mappings and their applications to PDE's and complex dynamics. He has solved the famous Gehring-Reich conjecture in the area distortion of quasiconformal mappings, and with L. Päivärinta the Calderon conjecture on impedance tomography. He won the International Salem Prize in 1994 and the Magnus Ehrnrooth Foundation prize in 2003. Astala was invited speaker at

ICM-1998 and at the European Congress of Mathematics in 1996.



Professor **Pertti Mattila** (HU) is a leading expert in geometric measure theory. In the mid 1990's M. Melnikov, J. Verdera and Mattila introduced new techniques to deal with the geometric structure of singularities of bounded complex analytic functions. Through the work of many people including the joint work of David and Mattila, this eventually culminated in X. Tolsa's solution of Painleve's century-old problem concerning the geometric characterization of removable sets of

bounded analytic functions. Mattila is the director of the Centre of Excellence of Geometric Analysis and Mathematical Physics (2002-2007). He was an invited speaker at ICM-1998 and, in 2000, he won the Magnus Ehrnrooth Foundation prize in Mathematics.



Professor **Mats Gyllenberg** (HU) is a leading figure in mathematical biology with an extensive collaboration network all over the world. He has made significant contributions to the theory of dynamical systems on dual Banach spaces, the mathematical theory of physiologically structured populations and adaptive dynamics with applications to metapopulation ecology and evolution. He is an often seen plenary speaker at the major congresses of mathematical biology and evolutionary

equations. He was vice President (2000-2002) and then President (2003-2005) of the European Society for Mathematical and Theoretical Biology, and the chairman of the research program for mathematical modelling of the Finnish Academy of Sciences (2000-2003). Since 2006, Gyllenberg is the President of the Finnish Mathematical Society. ([Home page](#))



Professor **Eero Saksman** (JU) is a versatile mathematician, who has made important contributions to several branches of mathematical analysis. His expertise covers geometric function theory, harmonic analysis, and partial differential equations, especially in connection with random phenomena. In applied analysis, Saksman is a leading expert in adaptive Markov Chain Monte Carlo Methods, where he has pioneered the non-Markovian approach both in the theoretical and algorithmic level. MCMC

is a very topical field internationally, increasingly used in varied applications of practical nature. Saksman has organized or co-organized numerous conferences. ([Home page](#))

Professor **Esa Järvenpää** (JU) and University Lecturer **Maarit Järvenpää** (JU) lead the group of geometric measure theory and dynamical systems. They are specialists in geometric properties of fractals. They have wide collaboration with world leading experts in different areas of mathematics including fractal geometry, dynamical systems and mathematical physics.



University lecturer **Stefania Geritz** (HU) and researcher **Eva Kisdi**



(HU) are senior members of the biomathematics group led by Gyllenberg. They have pioneered the theory of adaptive dynamics which, in about a decade since its birth, has become an established area of biomathematics and attracts an ever growing number of researchers. They have excellent expertise also in developing mathematical models of ecological systems. They are editing several journals and regularly organise scientific symposia.

Researcher **Yi Wang** (HU) works in nonlinear differential equations, applied dynamical systems and biomathematics. He has developed Hirsch's theory to nonautonomous/random competitive systems, proved the Sarkovskii-Theorem in planar discrete competitive systems, completely solved Smith's (1986) conjecture and three related open problems, and solved the asymptotic behaviour in quasimonotone (weak) subhomogeneous systems of partial differential equations.



Researcher **Paolo Muratore-Ginanneschi** (HU) has worked on turbulence, mathematical finance and semiclassical quantization. He is running a TEKES project on multiphase flows and an industrial collaboration project dealing with wireless ad hoc networks. ([Home page](#))