Logarithmic vector fields and freeness of divisors and arrangements: new perspectives and applications

Abstract - MFO Workshop 2104

The central topic of the workshop is the notion of logarithmic vector fields along a divisor in a smooth complex analytic or algebraic variety, i.e., the vector fields on the ambient variety tangent to the divisor. Following their introduction by K. Saito for the purpose of studying the universal unfolding of an isolated singularity, this fundamental object has been the focus of studies in a wide range of mathematical fields like algebra, algebraic geometry, singularity theory, root systems, (geometric) representation theory, combinatorics, (toric) topology, symplectic geometry. In the last 5 years the logarithmic vector field approach has seen some unexpected and striking advances and deep applications. The aim of the workshop is to connect researchers from several areas of mathematics to share the various new developments in the field.