Large time analysis for Kolmogorov semigroups and some functional/geometric consequences

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The focus of the talk will be the large time behaviour of the heat kernel for a class of hypoelliptic operators with linear drift term of Kolmogorov type. We will mainly discuss three consequences concerning functional spaces tailored on the relevant heat kernel: Sobolev-type inequalities with respect to the fractional powers of the operator, Besov embeddings of isoperimetric type, and approximations of L^p-norms through Besov seminorms. The talk is based on joint projects with N. Garofalo.