

## **Embedding Riemannian manifolds by their Heat Kernel**

G rard Besson, Universit  Joseph Fourier.

We shall describe a joint work with P. B rard and S. Gallot. It shows that the heat kernel of a Riemannian manifold can be used to embed it into a Hilbert space. This generalises the so-called nice embedding of some manifolds using one of their eigenspaces. We shall describe consequences, new results and open questions. This approach is now used in image analysis and this is a preparatory talk to P. B rard's one during the second week.