From Dirac Operators to Spectral Triples

(4 Lectures)

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In these lectures I will recall some essentials about Dirac operators on Riemannian manifolds that form the classical background for Connes' concept of a spectral triple.

1. Riemannian manifolds, vector bundles and connections

2. Clifford algebras and spinors

3. Dirac operators: construction and properties

4. Examples and applications

5. Spectral triples