Title: Topological structure of metric vector spaces.

Abstract. It is well known that any two finite dimensional vector spaces are homeomorphic provided they have the same dimension. A question whether it is also the case for infinite dimensional vector spaces was raised shortly after introducing the concept of a Banach space. The attempts to understand the topological structure of the metric vector spaces were the main reasons for the emergence of the infinite-dimensional topology which became a new branch of the geometric topology. It took more than thirty years from raising the question to prove that all infinite dimensional separable Banach spaces are homeomorphic and another fifteen years to prove a topological characterization of them. An example of a separable complete metric vector space not homeomorphic to any Banach space was discovered in another thirteen years later. In this talk we will discuss some insides of the construction of this example and its relation to other topics from geometric topology.