Abstract. Many of the various aspects of Noncommutative Geometry were represented in the talks. This includes in particular index theory on foliated spaces, a number of results on spectral triples, noncommutative manifolds and deformation theory, Hopf cyclic theory and $K$-theoretic and $L^2$-invariants attached to certain classes of groups. The connections to physics were covered in three talks on quantum field theory on noncommutative spaces such as the Moyal plane, one of the talks giving an attractive survey of the results and techniques in that domain.

Mathematics Subject Classification (2000): 46Lxx, 19xx, 81Txx.

Introduction by the Organisers

Noncommutative geometry applies ideas from geometry to mathematical structures determined by noncommuting variables. Within mathematics, it is a highly interdisciplinary subject drawing ideas and methods from many areas of mathematics and physics. Natural questions involving noncommuting variables arise in abundance in many parts of mathematics and quantum mathematical physics. On the basis of ideas and methods from algebraic topology and Riemannian geometry, as well as from the theory of operator algebras and from homological algebra, an extensive machinery has been developed which permits the formulation and investigation of the geometric properties of noncommutative structures. This includes $K$-theory, cyclic homology and the theory of spectral triples. Areas of intense research in recent years are related to topics such as index theory, quantum groups and Hopf algebras, the Novikov- and Baum-Connes conjectures as well as to the study of specific questions in other fields such as number theory, modular forms, topological dynamical systems, renormalization theory, theoretical
high-energy physics and string theory. Many results elucidate important properties of fascinating specific classes of examples that arise in many applications. The talks covered substantial new results and insights in several of the different areas in Noncommutative Geometry. The workshop was attended by 53 participants including 6 young researchers supported by the European Union.