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Title: Poisson geometry in noncommutative algebras
Abstract: This talk will give an elementary introduction to the major roles Poisson geometry played in the recent development of noncommutative algebras. We apply these ideas to a special family of noncommutative algebras associated to elliptic curves, so called Sklyanin algebras. We are able to fully determine the Azumaya loci and the corresponding irreducible representations of maximal dimension for any three-dimensional Sklyanin algebra whose point scheme is given by a smooth elliptic curve together with some torsion point. This work also contributes to the moduli problem of vacua in supersymmetric quantum field theories. This is a joint work with Chelsea Walton and Milen Yakimov.