

Monday, 19 October, 13:00, Zoom ID 675-315-555, Algebraic groups seminar, Simon Rigby (Ghent University)

"Bi-octonion algebras, algebraic groups, and cohomological invariants"

Abstract:

A bi-octonion algebra is a central simple nonassociative algebra that becomes isomorphic over some field extension to a tensor product of two octonion algebras. We look at various reductive algebraic groups, quadratic forms, and higher-degree forms involved with these algebras and discuss some consequences of their Galois cohomology. For instance, we get a different proof of Rost's Theorem on 14-dimensional quadratic forms with trivial Clifford invariant. Finally, we classify the cohomological invariants of bi-octonion algebras and give elementary descriptions of all the invariants.