



TEXAS A&M
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Mathematics & Statistics Colloquium

When: Wednesday, March 19, 2:00 pm - 2:50 pm

Where: Lee Drain Building 216

Galois groups of Schubert problems

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In 1870 Jordan showed how Galois theory can be applied to enumerative geometry. Earlier Hermite showed the equivalence of Galois groups with geometric monodromy groups, and in 1979 Harris initiated the modern study of Galois groups of enumerative problems. While difficult to determine in general, several methods have been developed recently to partially determine Galois groups in the Schubert calculus.

My talk will describe this background and sketch a project to systematically determine Galois groups of all Schubert problems of moderate size, investigating at least several million problems. This will use supercomputers employing several overlapping methods, including combinatorial criteria, symbolic computation, and numerical homotopy continuation, and require the development of new algorithms and software.