Algebra and number theory Seminar

On division algebras having the same maximal subfields

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Abstract: The talk will be built around the following question: let D_1 and D_2 be two central quaternion division algebras over the same field K; when does the fact that D_1 and D_2 have the same maximal subfields imply that D_1 and D_2 are actually isomorphic over K? I will discuss the motivation for this question that comes from the joint work with G. Prasad on length-commensurable locally symmetric spaces, and will then talk about some available results. One of the results (joint with I. Rapinchuk) states that if the answer to the above question is positive over a field K (of characteristic not 2) then it is also positive over any finitely generated purely transcendental extension of K. I will also discuss some generalizations to algebras of degree > 2.

Tuesday, February 8, 2011, 3:00 pm
Mathematics and Science Center: W306

Mathematics and Computer Science
Emory University