DEPARTMENT OF COMPUTER SCIENCE
UNIVERSITY OF HOUSTON

FACULTY CANDIDATE SEMINAR 2012

WHEN: MONDAY, APRIL 16, 2012
WHERE: PGH 232
TIME: 11:00 AM

SPEAKER: Mr. Amir Nayyeri, University of Illinois at Urbana Champaign

Host: Dr. Shishir Shah

TITLE: Combinatorial Optimization on Surfaces

ABSTRACT: Several problems in different branches of computer science (e.g. computer graphics, computer vision, machine learning, sensor networks and computational biology) are reduced to problems on surfaces or surface embedded graphs, which have been extensively studied by mathematicians and recently computer scientists. However, major algorithmic problems on surfaces are required to be addressed yet, and the combination of ideas from geometry, topology and algorithms seems to be the most promising way to progress in this regard. In this talk, I will discuss algorithmic problems on surfaces and surface embedded graphs and their possible applications. Particularly, I will show how we can borrow intuition and technique from geometry and algebraic topology to tackle some of such problems.

BIO: Amir Nayyeri is a PhD candidate at University of Illinois at Urbana Champaign. He works with the algorithms and theory group under the supervision of Jeff Erickson in the computer science department. Amir is particularly interested in algorithmic problems on surfaces (2-manifolds) and surface embedded graphs, their topological and geometric challenges and their applications in computer science. He received a master's degree in computer engineering from University of Tehran, under the supervision of Nasser Yazdani, where he worked on energy conservation techniques for ad hoc sensor networks.