



**HACETTEPE ÜNİVERSİTESİ MATEMATİK BÖLÜMÜ  
GENEL SEMİNERİ**

**(HACETTEPE UNIVERSITY MATHEMATICS  
GENERAL SEMINAR)**

**Tarih (Date):** 13.05.2015, Çarşamba(Wednesday)

**Saat (Time):** 15:00

**Yer (Place):** Yaşar ATAMAN Seminer Salonu

**Konuşmacı (Speaker):** KIVILCIM ALKAN (Brock University)

**Başlık (Title):** Inelastic Curve Flows in 2 and 3 Dimensional Minkowskian Space

**Özet (Abstract) :** In this project, I derive integrable systems from inelastic curve flows in 2 and 3 dimensional Minkowskian space by using Hasimoto variables. I introduce a Lorentzian version of a moving parallel frame and show that its structure equations encode the Hasimoto variables in natural way. For timelike/spacelike curves in the Minkowskian plane, I obtain the defocusing mKdV equation and its bi-Hamiltonian structure. For null curves, I find Burgers equation. For timelike curves in 3 dimensional Minkowskian space, I derive the complex defocusing mKdV equation and the NLS equation, whereas for spacelike curves, I find similar equations with complex numbers replaced by hyperbolic numbers.

NOT: Konuşma sonunda çay ve pasta ikramı olacaktır.

(P.S. Tea and cookies will be served after the talk.)