1011-35-28 **Minsu Song*** (msong@postech.ac.kr), Department of Mathematics, Pohang University of Science and Technology, Pohang, Kyungpook, South Korea. *A discontinuous solution for the time-dependent compressible Navier-Stokes system in a bounded domain.*

I will talk about discontinuous solutions and jump phenomena for the time-dependent compressible Navier-Stokes system in a bounded convex polygon. If initial datum of pressure has a jump at a specified curve $\mathcal{C}_0$ in Ω, then, as predicted by the Rankine-Hugoniot conditions, the pressure and velocity derivatives have jump discontinuities along the characteristic plane of the curve $\mathcal{C}_0$ directed by an ambient velocity vector. An explicit formula for the jump discontinuity is presented. The jump decays exponentially in time, more rapidly for smaller viscosities. Under suitable conditions of the data, we establish interior regularity of the solution away from the jump plane. (Received July 13, 2005)