1044-35-34   **Thomas Hillen** (`thillen@math.ualberta.ca`), University of Alberta, Edmonton, Alberta T6G 2G1, Canada, **Peter Hinow*** (`hinow@ima.umn.edu`), University of Minnesota, 114 Lind Hall, Minneapolis, MN 55455, and **Zhian Wang**, University of Minnesota, 114 Lind Hall, Minneapolis, MN 55455. *Measure-valued Solutions for a Kinetic Model of Cell Movement in Network Tissues.*

Mesenchymal motion describes the movement of cells in biological tissues formed by fiber networks. An important example is the migration of tumor cells through collagen networks during the process of metastasis formation. We investigate the mesenchymal motion model proposed by T. Hillen (J. Math. Biol. 53:585) in higher dimensions. We formulate the problem as an evolution equation in a Banach space of measure-valued functions and use methods from semigroup theory to show the global existence of classical solutions. We investigate steady states of the model and prove the convergence to the parabolic limit problem in the case that the underlying fiber distribution is independent of space and time.

    This is joint work with Thomas Hillen (University of Alberta, Edmonton) and Zhian Wang (Institute for Mathematics and its Applications, University of Minnesota). (Received July 11, 2008)