

Dr. Alex Freire

Mean curvature flow for triple junctions of surfaces

TIME:

19 Jun 2007, 17:00 - 19:00

LOCATION:

Freie Universität Berlin - Fachbereich Mathematik und Informatik
Arnimallee 6, 14195 Berlin-Dahlem (Raum 031)

For a class of networks of surfaces in three-dimensional space, consider the geometric motion described informally as follows: the cells are parametrized by a disk or an annulus, and their interiors move by mean curvature flow. Each boundary component parametrizes either a 'liquid edge' or a 'free boundary'. Along each 'liquid edge', three surfaces meet making constant 120 degree angles, while on the 'free boundaries', the surfaces intersect a fixed support surface orthogonally. I'll discuss a proof of short-time existence of classical solutions. This is analogous to a well-known geometric evolution for curves, but the existence proof for that case does not translate directly to surfaces.

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