1145-49-2111   **Selim Esedoglu** and **Tiago Salvador*** (`saldanha@umich.edu`), Department of Mathematics, University of Michigan, 530 Church St., Ann Arbor, MI 48105. Γ-*convergence of threshold dynamics algorithms.*

I will report on recent developments in a class of algorithms, known as threshold dynamics, for computing the motion of interfaces by mean curvature. These algorithms try to generate the desired interfacial motion by alternating two very simple operations: convolution, and thresholding. I will present a simplified version of the threshold dynamics algorithm given in the work of Esedoglu and Otto (2015) for the isotropic multiphase case that does not require the use of retardation functions. I will discuss the stability and convergence of the proposed algorithm, and threshold dynamics in general, which rely heavily on the positivity of the convolution kernel and its Fourier transform. Some counterexamples in which Γ-convergence fails in the very simple isotropic, multiphase case will also be presented. Finally, I will discuss recent results on Γ-convergence of the two phase, anisotropic case for sign changing kernels. Our contribution, which will also be discussed, is enlarging the class of admissible sign changing kernels since it is possible to construct interesting anisotropies not covered by the previous work. Joint work with Selim Esedoglu. (Received September 25, 2018)