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Inwon Kim and **Dohyun Kwon*** (dhkwon@ucla.edu), Department of Mathematics, University of California, Los Angeles, Los Angeles, CA 90066. *Global-time behavior of volume preserving mean curvature flow for star-shaped sets.*

In this talk, we will present the evolution of star-shaped sets in volume preserving mean curvature flow. Constructed by mean curvature flows with forcing and their minimizing movements, our solutions preserve a strong version of star-shapedness for all time. In addition, we will discuss asymptotic behavior of the flow. We use the gradient flow structure of the problem and show that the solutions converges to a ball as time goes to infinity. This is joint work with Inwon Kim. (Received January 29, 2019)