

GEOMETRIC DIFFUSIONS FOR RECONSTRUCTION OF CELL DIFFERENTIATION DYNAMICS

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In this seminar, I will talk about adaptation of a dimension reduction method called "diffusion maps" for analysis of cell differentiation process. Cell differentiation is a process in which cells divide and change gene expression states gradually with possible cell fate branchings. An example of this process is how one single "stem cell" can give rise to several cell types (heart cells, blood cells, skin cells, etc) in an embryo body.