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A framework for studying biased stochastic dynamics in continuous space[1] S.M. ALI TABEI, YE TIAN, University of Chicago, MARTIN TCHERNOOKOV, Emory University, AARON DINNER, University of Chicago — Typically in the formalism of large deviation functions the biased dynamics are studied in a discrete space. However, in many realistic stochastic systems dynamics take form in a continuous rather than a discrete space. In recent work it was shown that the biased dynamics for continuous-space models can be calculated using transition path sampling: unbiased trajectories were generated by shooting with the original dynamics from an existing path and then accepted or rejected to obtain the biased path ensemble. Here, we instead develop a way to bias continuous-space dynamics directly in the form of a biased Langevin equation.

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