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Dan Hrozencik* (dhrozenc@csu.edu), 9501 S. King Dr., HWH 332, Chicago, IL 60628, and
Olcay Akman, Devin Akman and Tim Comar. *Reconstructing Stochastic Gene Regulatory
Networks with Recurrent Neural Network Models Using Particle Swarm Optimization.*

In previous work, the authors developed a model to examine the state transition variability of gene regulatory networks (GRNs) due stochastic variation of propensity probabilities caused by internal noise at the molecular level. Using this model, the authors now show how to optimize the GRNs from gene expression data. In particular, the authors propose to use recurrent neural networks and particle swarm optimization to reconstruct the GRN from data via self-adapting intelligent optimization. (Received September 26, 2017)