

Workshop: *Deconstructing Biochemical Networks*
22–23 September 2007

*Time Evolution of Gene Expression
Distributions in Perturbed Bacterial Populations*

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Abstract

We use a highly simplified construct to express a fluorescent protein from plasmids in bacterial cells, and sort out the brightest 10 percent of the population. The distribution of protein expression levels is tracked over six hours, showing different behaviours in two plasmid types: a tightly regulated (medium-copy) plasmid relaxes rapidly back to the initial distribution; while an unregulated (high-copy) plasmid takes many hours to return to the original state.