

**Dynamics and impact of TGF β family signal interpretation on the transcriptional landscape,
studied by perturbation strategies in embryonic cells**

1. Gene-to-gene interactions are cell type specific, but display robustness to change in time. (*This thesis*)
2. Single-cell high-throughput qPCR is sensitive enough to detect the subtle cell priming that may explain the efficiency of cell fate switches to different stimuli and cellular contexts. (*This thesis*)
3. Cellular diversity of embryonic stem cells regarding DNA-(de)methylation is not a stochastic process, but is regulated by cell-cell signaling interactions involving the BMP-Smad signaling pathway. (*This thesis*)
4. *Zeb2* knockout mouse embryonic stem cells remain susceptible for re-activation of the pluripotency network, despite having acquired methylation levels associated with terminal differentiation. (*This thesis*)
5. Except in rare instances where cells can be precisely synchronized, bulk cell measurements destroy crucial information by averaging signals from individual cells together (*This thesis* and Cole Trapnell, *Genome Research* 2015).
6. The epigenome is far more information-rich than the transcriptome because the epigenome maps both the drivers of the program, such as TFs and enhancer marks, and downstream effects on the chromatin landscape, such as gene-body methylation. (*Steven Henikoff, Neuron* 2015)
7. "Any sufficiently advanced technology is indistinguishable from magic." (*Arthur C. Clarke*)
8. "The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them." (*William L. Bragg*)
9. "What I cannot create, I do not understand." (*Richard Feynman*)
10. "More than 70% of researchers have tried and failed to reproduce another scientist's experiments, and more than half have failed to reproduce their own experiments." (*scientific journal Nature, survey* 2016)
11. "The question is, are we happy to suppose that our grandchildren may never be able to see an elephant except in a picture book?" (*David Attenborough*)