Stellingen behorende bij het proefschrift

Developmental Dynamics of Transcription and Genome Architecture

1. Although, the linear composition of many genomes is largely known, their 3D organization is largely unknown. The latter has a direct implication on gene regulation and control of complex developmental processes (*This thesis*).
2. T2C shows the interactome and spatial organization of the Megabase size genome regions, with absolute restriction fragment resolution, high signal to noise ratio, high coverage and low sequencing efforts (*This thesis*).
3. TNFα primes NFκB's bimodal function based on its consensus DNA motif, induces rapid and widespread nucleosome repositioning and affects intradomain and interdomain interactions (*This thesis*).
4. Genes are in close proximity with their regulatory elements forming "ancient" loops in early development. The genome has evolved new regulatory elements between the genes and the original "ancient" regulatory elements, that are used later in development, forming "loops within loops". At the same time, the genome generally has its enhancers closer to its genes than its silencers (*This thesis*).
5. "Pioneering TFs" could attract and stabilize the LDB1 complex in new genomic regions during hematopoietic differentiation (*This thesis and Zaret & Carroll, Genes & Dev. 2011*).
6. There is a deal of evidence that regulatory genes are expressed in several cell lineages, supporting current and classic notions that cell type would be encoded by a subset of combinations from a pool of genomic regulatory genes (*Davis et al., Cell 1987*).
7. Cell-type specific instructions for 3D folding, are encoded in local properties of chromatin. One of the means by which enhancer, silencer and insulator loops actually affect transcriptional output of target genes may be by facilitating migration of gene loci to particular nuclear domains (*Dekker, Epigenetics & Chromatin 2014 and Dean, Front Genet. 2012*).
8. "Τὸ λακωνίζειν ἐστιν φιλοσοφεῖν"; To be brief and accurate is philosophy (*Chilon of Sparta*)
9. "Always be the toughest judge of your results" – *Wise advice from Frank Grosveld*
10. "The most exciting phrase to hear in science, the one that heralds new discoveries, is not Eureka! but That's funny..." – *Isaac Asimov*
11. "DNA neither cares nor knows. DNA just is. And we dance to its music" – *Richard Dawkins*