Propositions (Stellingen)

MICRORNAS IN NORMAL AND MALIGNANT MYELOPOIESIS

1. At the earliest developmental stages of myelopoiesis, *Dicer1* is not crucial for cell viability but instead controls essential steps in development from the stem cell towards the myeloid lineage (this thesis).
2. Although reduced processing of miRNAs due to *Dicer1* haplo-insufficiency promotes the development of leukemia, some miRNAs are essential for leukemic transformation (this thesis).
3. *Mir-139-3p*, *miR-199a-3p* and their targets contribute to respectively bone marrow failure and leukemic transformation of Fanconi anemia (this thesis).
4. Most of the miRNAs expressed in a cell are not active (this thesis and Mullokandov *et al*, *Nat. Methods*, 2012).
5. Transcriptional control of myeloid development is to a major extent mediated via miRNA pathways.
6. Organisms that systematically lack one or more miRNAs may appear normal but exhibit a phenotypic crisis under stress conditions (Leung and Sharp, *Mol. Cell*, 2010).
7. When it comes to studying cell function, the potential of RNA-sequencing surpasses that of DNA-sequencing.
8. It's not the strongest who survive, but the ones most adaptable to change. This also applies to the evolution of cancer (Adapted from Charles Darwin).
9. Investing in translational research only represses radical innovations emanating from basic research, which, in a feedback loop, reduces translational output.
10. For an unbiased process of peer reviewing, the authors of a manuscript should remain unknown to the reviewers. Also, for an objective assessment of the peer review process, and for constructive argumentation between referees and authors, the communication between them should be openly visible after publication.
11. Nothing shocks me. I'm a scientist (Harrison Ford *as Indiana Jones*, created by George Lucas).

Mir Farshid Alemdehy, 11 March 2015