Single cell noise (PhD)

Single-cell observations have revealed that protein and mRNA concentrations are not constant, but rather fluctuate dramatically in time. Transcription noise has been studied in detail in recent years. However, whether noise is at all relevant at the level of organism functioning and performance remains poorly understood. The aim of this project is to understand the molecular mechanisms that underlie transcription noise, and to unravel its impact on the efficiency of organism growth. Time-lapse microscopy will be used to accurately measure the growth of individual *E. coli* cells, as well as the expression history of a vital gene that is labelled with GFP. We will make use of straightforward genetic engineering to alter the characteristics of transcription bursting, microfluidics, image analysis, statistics, and mathematical modelling.

We are looking for an outstanding experimental physicist, chemist, or biologist with an interest in quantitative biological topics. The applicant should have a strong drive to excel in a competitive international environment. The project is funded through the Netherlands Institute of Systems Biology (NISB), and involves the groups of Frank Bruggeman, Daan Crommelin, Klaas Hellingwerf, Sander Tans, and Pieter-Rein ten Wolde. The position is based at the AMOLF institute within the group of Sander Tans.

The position is intended as full-time (38 hrs / week, 12 months / year) appointment in the service of Foundation for Fundamental Research on Matter (FOM) for the duration of two years (postdoc) or four years (PhD). After successful completion of the PhD research a PhD degree will be granted. Several courses are offered, specially developed for PhD-students. AMOLF assists any new foreign employees with housing and visa applications and compensates their transport costs and furnishing expenses.

For further information please contact: Dr. ir. Sander Tans (tans@seebelow1*) or Dr. Frank Bruggeman (frank.bruggeman@seebelow2*)

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Applications can be sent to: FOM Institute AMOLF
Personnel Department
Postbus 41883,
1009 DB Amsterdam, The Netherlands
E-mail: application@seebelow1*
Please quote vacancy # 0811.34

Please send your:
- Resume;
- A short statement of your motivation to apply for this position.

* Replace seebelow1 with amolf.nl and seebelow2 with sysbio.nl