

You are cordially invited to a talk in the **Edmond J. Safra Center for Bioinformatics Distinguished Speaker Series**.

The speaker is **Prof. Terry Speed**, Honorary Fellow and lab head in the Bioinformatics Division, the Walter & Eliza Hall Institute of Medical Research, Melbourne, Australia.

Title: "Normalizing Nanostring data with RUV-III"

Time: Sunday, **May 28**, 2017, at **11:00** sharp (refreshments from 10:45)

Place: Holtzblat Hall 007, Exact Sciences Faculty

Host: Prof. Ron Shamir, rshamir@tau.ac.il, School of Computer Science, TAU

Abstract: The Nanostring nCounter platform can directly measure highly-multiplexed gene expression from a wide range of samples. Adjusting for sample loading differences and other technical effects is essential for correct and accurate interpretation of Nanostring gene expression data. We have found that the current normalization methods can fail to remove technical variation, including batch effects, particularly when the data comes from large or complex experiments. We introduce a normalization method termed Removing Unwanted Variation III (RUV-III), which relies on factor analysis of appropriate panels of genes and technical replicate samples to correct for sample loading variation and other technical effects.

To evaluate our normalization method, we analyse several Nanostring gene expression data sets. Various statistical tools were employed to determine how effectively the unwanted variation was removed. We also examined whether RUV-III normalized data made sense in biological terms.

(joint work with Ramyar Molania and Johann Gagnon-Bartsch).

