

Séminaire



CONFÉRENCIER
INVITÉ

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Salle des
séminaires

Institut de biologie structurale - 71 avenue des Martyrs CS 10090 38044 Grenoble Cedex 9 - T.+33 (0)4 57 42 85 00

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Microscale Thermophoresis and additional effects measured with the NanoTemper Monolith

Despite thermophoresis being first described in 1850, it was only recently adapted to a microscopic setup by Stefan Duhr and Dieter Braun in 2006. This gave rise to a new type of instrumentation to analyze molecular interaction termed MicroScale Thermophoresis (MST).

Since NanoTemper Technologies commercialized this method with the Monolith in 2010, the ease of use, low sample consumption and fast measurement are challenging well established techniques, such as ITC and FCS, in biological and medical laboratories as well as in industry. MST can be used for a variety of measurements, determination of dissociation constants KD being only one of several applications. Its main application to derive dissociation constants gave rise to an exponential growth of sales, measurements and publications within the last five years.

Unfortunately, many publications with low or no quality assessments of the data leave a lot of biophysicists and journal referees puzzled about the reliability of the technique. Only a few publications without NanoTemper affiliated authors have discussed the technique, its advantages and limitations, and a proper quality assessment of the measured data. It is of tremendous importance to understand what MST measurements actually show and how to check for reliable results, to avoid undermining the technique with potentially low quality measurements. Several key ideas about how to interpret MST measurements and how to assess the quality of measurements are addressed in this talk, stemming from personal experience with user samples over the last two years.

Hôte : F. Fieschi (IBS/M&P)