



UNIVERSITÀ  
DEGLI STUDI  
DI BRESCIA

**UNIVERSITÀ DEGLI STUDI DI BRESCIA**

**DIPARTIMENTO DI MEDICINA  
MOLECOLARE E TRASLAZIONALE**

**SEMINARIO**

**Dr. Francesca Viganò**

**NanoTemper Technologies GmbH, Munich, Germany**

## **“Biomolecule Analytics Using Microscale Thermophoresis (MST)”**

The presentation gives an overview of MicroScale Thermophoresis (MST), a biophysical technique for the analysis and quantification of biomolecular interactions. MST measures the strength of the interaction between two molecules by detecting a variation in the fluorescence signal of a fluorescently labeled or intrinsically fluorescent target, as a result of an infrared-laser induced temperature change. The range of the variation in the fluorescence signal correlates with the binding of a ligand to the fluorescent target and depends on two physical principles that are TRIC (Temperature Related Intensity Change) and thermophoresis.

MST allows quantification of binding affinities of proteins, nucleic acids and small molecules. In addition, also functional studies of small molecule inhibitors are possible. Fluorescently labeled proteins/peptides/nucleic acids can be used as well as intrinsic tryptophan fluorescence or proteins expressed with GFP/YFP/RFP.

The presentation will cover: 1) technical details and benefits of the MicroScale Thermophoresis technology platform and 2) examples of interaction measurements ranging from protein – protein, small molecule – receptor down to protein – ion binding studies to experiments where the interactions between receptors incorporated in vesicles or membranes and soluble proteins are analyzed.

**lunedì 28 maggio 2018, ore 13.00-14.00 Aula A  
viale Europa 11, Brescia**

**Ospiti: Prof. Marco Rusnati & Prof. Paolo Bergese**

**Tutti gli interessati sono invitati a partecipare**