

Università degli Studi di Pavia Dipartimento di Ingegneria Civile e Architettura



in collaboration with

Centro di Simulazione Numerica Avanzata – CeSNA IUSS

Circulating Tumor Cells: Liquid Biopsy of Cancer

The release of cancer cells by primary tumor and the formation of metastases are the most common cause of death in cancer patients. Tumor disseminated cancer cells in the blood stream of patients with carcinoma are named Circulating Tumor Cells (CTCs) and their presence may underlie distant metastases development and/or determine tumor relapse. Their study is one of the most important topic in oncology.

It is very tempting to imagine that in the near future CTC detection and characterization could be considered as a "liquid biopsy" able to monitor disease progression and define the tumor at the molecular level through a simple blood sample. Such progress could substantially improve the management of cancer patients, paving the way for the personalization of targeted therapy strategies. Nevertheless, their clinical potential has not been fully understood. CTCs, in fact, represent a rare cell population spread in the blood, a complex and heterogeneous scene, and they are extremely difficult to capture and analyze. Actually, one of the major hurdles in their study is their number. Therefore, to fully uncover CTC promises, new and more effective capture methods have to be developed.

Our principal aim is to define and develop a new CTC detection and recovery strategy to improve CTC recovery rate. Finding more CTCs will probably simplify the execution of specific functional and molecular assays allowing a better characterization of this cell population and participate at the race for the personalized therapy.

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Sez. Cytometry and Circulating Tumor Cells Laboratorio di Bioscienze Istituto Romagnolo per lo Studio e la cura dei Tumori I.R.S.T. Meldola (FC) Wednesday, November 27, 2013 MS1 Room, 14.30 Dipart. di Ingegneria Civile e Architettura Via Ferrata, 3 – Pavia