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## ***Teach Mob – Visiting Professors*** ***Academic year 2016/2017***

1 <sup>st</sup> Term
<b>COURSE TITLE</b> Cell culture techniques in cancer cell biology
<b>Scientific area</b> Cell Biology
<b>Department of Molecular Biotechnology and Health Sciences</b>
<b>Language used to teach: English</b>
<b>Teaching Commitment: 16 hours</b>
<b>Course summary</b> Basic Cell culture Techniques. Specialized cells culture techniques: 3D cultures and Organoids. Analysis of cell proteins into living cells (localization and function): immunofluorescence, PLA, FRET. Functional assays in cell biology: proliferation, migration, invasion, survival (apoptosis versus anoikis). In vitro and in vivo specific assays for tumorigenesis (from anchorage-independed growth to Patient-derived xenografts) In vitro specific assays for neuronal cultures: axon growth, dendritic spine assembly and dynamics.
<b>Learning objectives</b> The purpose of this course is to provide wide-date overview of the most important experimental methods used in basic research and applied biotechnology. In particular, the Cell Biology module will provide the knowledge necessary to understand the currently used cellular and biochemical technologies for the study and exploitation of proteins into the main cell biological processes. The module will also offer a focus on primary cell cultures in cancer and neuroscience. A key aspect of teaching will be highlighting how different technologies can be integrated to address complex biological questions. To this aim several case studies from recent literature will be analyzed.
<b>Tutorship activities</b>
<b>Lab activities</b>
<b>Other activities besides the course: i.e. seminars and conferences addressed to PhD students and research fellows, dissemination conferences</b> Seminars to research fellows and PhD students: Cell-matrix adhesion receptors and related signalling: essential role in cell survival and proliferation.

<b>Visiting Professor Profile</b> We would like to host in our Dept a senior scientist whose research experience is focused on Cell Biology and Signalling in cellular systems. In particular, we will be interested in people having a strong experience in the field of integrin-mediated cell adhesion. This field is becoming increasingly important in both cell physiology and pathology, such as neurite extension or resistance of tumor cells to antitumor drugs. In addition, the visiting professor should have teaching experience in his/her institution or in previous Visiting Professor experiences in other Universities.
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Curriculum vitae, including scientific papers, will be evaluated.

**Contact person at the Department**

Prof. Paola Defilippi – [paola.defilippi@unito.it](mailto:paola.defilippi@unito.it)