

## Code B\_2711

<b>Department</b>	Chemical and Geological Science
<b>UniCa reference person</b>	Tiziana Pivetta
<b>Project title in English</b>	Synthesis and characterisation of new ligands and metal complexes with important biological activities
<b>Project title in Italian</b>	Preparazione e caratterizzazione di nuovi leganti e complessi metallici con importanti attività biologiche
<b>Subject area of reference (World University Ranking)</b>	PHYSICAL SCIENCES (inc. Mathematics, Chemistry, Geology, Earth & Marine Sciences)
<b>Project summary and VPS' profile</b>	<p>After the discovery of cisplatin's cytotoxic properties, several metal complexes were prepared and tested for their biological activity, exploiting different action mechanisms such as redox reaction, photo and thermal activation, catalytic pathways, enzymatic inhibition, oxidative stress, and many others. Considering the high incidence of cancer worldwide, the development of novel anticancer chemotherapeutics able to act with poor side effects and good efficacy appears extremely important. The study of the action mechanisms also appears to be of great importance, as often the newly synthesized molecules act on different targets even at the same time.</p> <p>The ideal VP is active in the field of synthesis and characterization of new ligands and/or metal complexes with biological activity. In particular, s/he is skilled in the analytical characterization of the studied molecules, in the study of the possible interactions with biomolecules (DNA, enzymes, proteins), of antioxidant activity, radical scavenging, cytotoxic activity and so on. S/He is an expert in the most common chemical-physical characterization techniques such as elemental analysis, IR, UV/VIS and fluorescence spectroscopy, X-ray structural analysis and in biological studies (in vitro or in vivo) for the determination of cytotoxic activity on different cell lines.</p> <p>Knowledge of theoretical chemistry for the study of potential density surfaces, Hirshfeld surfaces, molecular orbitals and molecular docking are also welcomed.</p> <p>The presented topics will be the subject of two lectures given by the VP. The VP is expected to contribute also to the research activities. Assistant professor or professor is the required position.</p>
<b>Proposed length of stay</b>	Short visit of 10 days
<b>Expected period of activity</b>	May – June 2024
<b>Academic position of the VPS'</b>	Researcher
<b>Course of Study</b>	Laurea triennale (1st cycle University Degree), Laurea magistrale (2nd cycle University Degree), Dottorato di ricerca (PhD Course)
<b>Language of instruction</b>	English