

New Drugs and Technologies for Human Health

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Medicinal Chemistry; Physics

School of Pharmacy

Ratio Strutturati /Non Strutturati: 11 / 6



Research Day UNICAM
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Characterizing studies

- ✓ Adenosine Receptor modulators as tools for the treatment of inflammatory, visceral, and neuropathic pain;
 - ✓ Novel anticancer tools acting on membrane receptors and enzymes;
 - ✓ Purinergic Receptor modulators with anti-inflammatory and immunomodulatory activity;
- ✓ Purinergic, Dopamine, Orexin, Acetylcholine, Sigma and NMDA Receptor modulators for the diagnosis and treatment of central and peripheral nervous system diseases;
- ✓ Development of computational tools, including machine learning and deep learning techniques, for drug discovery and pharmaceutical studies;
 - ✓ Application of artificial intelligence approaches in chemistry.

National Impact: The research activities of the groups of medicinal chemistry and physics are of interest for industries that may find academic partners in UNICAM teams; examples are collaborations with pharmaceutical industries but also companies working in different fields (with application of i.e. artificial intelligence approaches). The research activities are carried out by collaborating with not only industries but also other Italian universities.

International Impact: The international impact of the research is given by the relevant role of members of these groups in international scientific societies and journal boards, as well as collaborations with high level international academic partners and fundings by international organizations or foundations.

Relations with SME :

- ✓ Aptuit, an Evotec Company, Verona, Italy;
- ✓ Benetton, Italy.



Sources of funding:

- ✓ **European** (Cost; NQSTI - National Quantum Science and Technology Institute);
- ✓ **International** (Michael J Fox Foundation);
- ✓ **Ministerial** (MUR, Prin, PNRR);
- ✓ **National** (AIRC - Italian Association for Cancer Research; Centro Nazionale per HPC, Big Data e Quantum Computing);
- ✓ **Academic** (FAR)

International collaborations:

- ✓ University of Bonn, Germany;
- ✓ University of Muenster, Germany;
- ✓ Oregon Health & Science University, USA;
- ✓ Northeastern University, Boston, USA;
- ✓ National Institute on Drug Abuse (NIDA-NIH), USA;
- ✓ University of Texas Medical Branch, USA;
- ✓ University of Tampere, Finland;
- ✓ University of Uppsala, Sweden;
- ✓ University of Umea, Sweden;
- ✓ University of Copenhagen, Denmark;
- ✓ University of Antwerp, Belgium;
- ✓ University of South Australia, Adelaide, Australia

Roles in scientific societies/networks/Research centers:

- ✓ Members of Regione Marche Italian Chemistry Society Board;
- ✓ Members of Italian Purine Club Board;
- ✓ Members of Cost Actions Boards;
- ✓ Members of international peer-review Journal Boards;
- ✓ Multisuper Network;
- ✓ National Quantum Science and Technology Institute

