

**Name and Surname:** Maria Gabriella De Martino

**Qualification:** Lecturer

**Scientific Sector:** Chim 08

**Contact:**

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**Biography:** Born in Rome in 1972, I got my Master Degree in Chemistry and Pharmaceutical Technologies and the PhD in Pharmaceutical Sciences from the University of Rome "La Sapienza". After 4 years in the USA at the National Institute of Health (NIH) working as Research Fellow I moved back to Italy and I spent 4 years at the Department of Pharmaceutical Studies at the University of Rome "La Sapienza" as part of the "Rientro dei Cervelli" program. In 2009 I joined the University of Rome "Torvergata" where I actually work a lecturer in Pharmaceutical Chemistry at the Degree Course of Pharmacy and I'm involved in several research projects as synthetic chemist.

**Title of teaching module:** Pharmaceutical and Toxicological Chemistry 1

**Description of teaching module (teaching program):**

**DRUG DESIGN AND DEVELOPMENT** Identify target disease, Identify drug target, Establish testing procedures, Find a lead compound, Structure Activity Relationships (SAR), Identify a pharmacophore, Drug design- optimising target interactions, Drug design - optimising pharmacokinetic properties, Toxicological and safety tests

**PHARMACOKINETICS** Drug Absorption, Distribution; Metabolism Phase I and Phase II Reactions, Cytochrome P450 enzymes, Drug-drug interactions, Drug-food interactions; Excretion; Administration Oral Administration, Inhalation - Respiratory System, Injection, Topical administration (transdermal absorption), Blood level concentrations of drugs; Drug Delivery

**SELECTED TOPICS IN MEDICINAL CHEMISTRY ANTI-BACTERIAL AGENTS:**

Penicillins; Cephalosporins; Monobactam; Carbapenems;  $\beta$ -Lactamase Inhibitors; Glycopeptides; Cycloserine; Fosfomycin; Lipopeptides; Aminoglycosides; Tetracyclines And Glycylcyclines; Macrolides And Ketolides; Lincosamides; Streptogramins; Chloramphenicol; Oxazolidinones; Sulfonamides; Fluoroquinolones; Polymyxins; Bacitracin; Metronidazole.

*Anti-Mycobacterial Agents:* Isoniazid; Rifamycins; Pyrazinamide; Ethambutol; Ethionamide; Clofazimine; Dapsone.

*Antifungal Agents:* Amphotericin B; Flucytosine; Imidazoles And Triazoles; Echinocandins; Griseofulvin; Terbinafine; Nystatin.

*Antiviral Drugs (Non-Retroviral):* Anti-Herpesvirus, Anti-Influenza And Anti-Hepatitis Virus Agents.

*Anti-Retroviral Drugs:* Nucleoside And Nucleotide Reverse Transcriptase Inhibitors; Non-Nucleoside Reverse Transcriptase Inhibitors; Protease Inhibitors; Entry Inhibitors; Integrase Inhibitors.

*Antiprotozoal Drugs:* Metronidazole; Pentamidine; Eflornithine; Suramin; Melalsoprol; Miltefosine; Nifurtimox And Benznidazole; Sodium Stibogluconate; *Antimalarial Agents:* Artemisinin And Derivatives; Atovaquone; Pyrimethamine; Proguanil; Quinolines.

*Anthelmintic Drugs:* Benzimidazoles; Diethylcarbamazine; Ivermectin; Praziquantel; Pyrantel Pamoate.