

Claudio Medana, born 1966.

Full professor of Analytical Chemistry (SSD 03/A1, CHIM/01), Dipartimento di Biotecnologie Molecolari e Scienze per la Salute, Università di Torino.

Past positions at Torino University: Research assistant (Medicinal Chemistry, SSD 03/D1, CHIM/08, 1994-2001; associate professor of Medicinal Chemistry, 2001-2016).

#### RESEARCH ACTIVITY

The recent research activity is focused on the development of analytical mass spectrometry methods for the identification and determination of bioactive molecules (metabolites, drugs, toxics), with particular attention to the determination of transformation products. Past activity was focused on synthesis and analytical characterization of new potential drugs. Author or co-author of more than 120 ISI papers and several book chapters. 100 poster and oral communications at scientific national and international conferences.

Head of the laboratory of Mass Spectrometry of the department and coordinator of the MS facility (open access lab).

Supervision activity: mentor and tutor of Master degree in Chemistry, Pharmacy and Biotechnology and PhD degree in Chemical and Materials Sciences.

Funding from MIUR (PRIN), Regione Piemonte, Fondazione San Paolo, Fondazione CRT, MIUR, European Union (EU JPI) and private institutions.

#### RECENT RESEARCH TOPICS

- Assessment of the transformation of bioactive molecules by HPLC coupled to high resolution multistage mass spectrometry to study drug metabolism, environmental fate of drugs and toxics by the use of photocatalysis models.
- Studies about mass spectrometry fragmentation pathways and application to structural determination of synthetic intermediates or unknown molecules.
- Targeted metabolomics determination of biochemicals: endogenous toxins formed by interaction of sugars and proteins; enzymatic products of drugs and lipid molecules; food bioactive components quantitation.
- Determination of phytochemical profiles to characterize bioactive principles of plant preparations.
- Quantitative determination of known or unknown metabolites to elucidate enzyme mechanism, also by the use of rare isotope enriched intermediates.

#### EDITORIAL ACTIVITY

Reviewer for several Journals (Journal of Chromatography, Journal of Pharmaceutical and Biomedical Analysis, Journal of Mass Spectrometry, Rapid Communication in Mass Spectrometry, Mass Spectrometry Reviews, Phytochemical Analysis, Molecules, Food and Chemical Toxicology, Molecules, Food Analytical Methods, Foods). Guest Editor for Toxics and Applied Sciences journals for special issues. Book Editor of two University students' textbooks.

#### SCIENTIFIC SOCIETIES

Membership and participation to board of directors of Italian Mass Spectrometry Society.

Membership of American Society of Mass Spectrometry.

#### TEACHING ACTIVITY

The recent teaching activity (2016-2019) takes place in the departments of Molecular Biotechnology (courses of "Analytical Chemistry", provided in English), Biology (Food Chemistry" and Chemistry ("Toxicological and Sport Doping Analysis") of Turin University. The past activity involved teaching in Pharmacy and Science Schools of Turin and Eastern Piedmont Universities (courses of "Toxicological Environmental Chemistry", "Medicinal and Toxicological Chemistry", "Quality control in biochemical clinical analysis" and "LCMS methods

of analysis for biological active compounds”, for PhD students, 2013-2016; courses of “Medicinal Chemistry”, “Medicinal Analysis I”; “Drug Analysis II”, “Toxicological Chemistry”, 1995-2001).

#### THIRD MISSION

Analytical responsible for official mineral and thermal water analysis. Technical consultant for Appellate Court and public Prosecutor's Office for several Court offices (Tribunali di Torino, Asti, Vercelli).