

## **Teaching Activity**

A.A. 1993/94 - 1999/2000: numeric exercises for the Inorganic Chemistry course of the Geological Sciences Degree, University of Perugia

A.A. 1994/95 - 1998/99: integrative laboratory teaching activity for the Physical Chemistry 1 course of the Chemistry Degree, University of Perugia

A.A. 1999/2000: integrative laboratory teaching activity for Advanced School in Biochemistry and Clinical Chemistry, University of Perugia

A.A. 2004/2005 - 2009/2010: professor of the Physical Chemistry Laboratory course for the Environmental Chemistry Degree and for Sciences and Technologies for the Conservation and Restoration of Cultural Heritage Degree, University of Perugia.

A.A. 2010/2011 – 2011/2012: professor of the Environmental Chemistry courses for the Chemistry Degree and Tecniche della Prevenzione nell'Ambiente e nei Luoghi di Lavoro Degree, University of Perugia.

A.A. 2002/03 – 2014/15: professor of the Physical Chemistry Laboratory 1 course of the Chemistry Degree, University of Perugia.

A.A. 2012/13 – 2014/15: professor of Chemical Technology for the Environment course of the Chemistry Degree, University of Perugia.

A.A. 2015/16 – today: professor of Environmental Chemistry course of the Chemical Science Degree and Chemistry for the Restoration course of the Chemistry Degree, University of Perugia

A.A. 2016/17 – today: professor of Environmental Chemistry course of the Master Naturalistic and Environmental Science and Technologies degree.

He has delivered several lessons for the PhD students at the Chemical Sciences PhD School of the University of Perugia from the 1998 until today. He has been supervisor of several degree thesis for students in Chemistry and in Sciences and Technologies for the Conservation and Restoration of Cultural Heritage, concerning photochemistry and photophysics of organic compound, such as aromatic ketons, photochromic, natural and synthetic dyes used in pictorial arts. He has been supervisor of PhD thesis in Chemical Sciences concerning Physical Chemistry characterization of artistic materials and photochemical and photophysical study of photochromic materials.

He has been invited as teacher in the following national and international schools:

2007: 4th National introductory course to photochemistry, University of Bologna

2010: 5th National introductory course to photochemistry, University of Bologna

2010: Training on spectroscopic techniques (invasive and non invasive) for Cultural Heritage, Ravenna

2012: Advanced laser-based techniques in art conservation, diagnostics and analysis, Heraklion, Greece

2013: 6th National introductory course to photochemistry, University of Bologna

2016: 7th National introductory course to photochemistry, University of Bologna

### **Research activity**

Research activity, documented by more than 100 papers in international journals and 7 book chapters, has continuously performed at the Chemistry Department, Photophysic and Photochemistry laboratory and at the SMAArt Excellence Centre (Scientific Methodologies applied to Archaeology and Art), University of Perugia.

Research involved both basic and applied studies. Main research subjects concern: organic molecules excited state characterization by means of the knowledge of radiative and not radiative parameters; study of acid-base equilibriums in both ground and excited state; investigation of photoreactions mechanism and parameters which affect them. Main substrates studied are: carbonyl photosensitizers, such as aromatic ketons and di-ketons; photochromic compounds belonging to spirooxazines and chromenes classes; materials used in figurative arts (dyes, pigments, binders, varnishes).

From 2005 till today, he continuously joined the international activities of MOLAB (MOBILE LABORATORY) inside the European Projects Eu-ARTECH (Access, Research and Technology for the conservation of the European Cultural Heritage WEB site <http://www.eu-artech.org/>), CHARISMA (Cultural Heritage Advanced Research Infrastructures: Synergy for a Multidisciplinary Approach to conservation/restoration WEB site <http://www.charismaproject.eu/>) and IPERION CH (Integrated Platform for the European Research Infrastructure ON Cultural Heritage WEB site <http://www.iperionch.eu/>). During these activities he developed new not invasive analytic methodologies suitable for in-situ diagnostic of cultural heritage of different nature (mural paintings, easel paintings, manuscripts, tapestries etc.) projecting and assembling innovative spectroscopy apparatus, one of them also patented in 2008 (A. Romani e G. Favaro, Patent, RM2008A000002, January 4 2008).

From 2009 to 2014 he has been leader for the Task 9.6 of the CHARISMA European project “Combined time-resolved and steady-state fluorimetry” for the realization of a new portable apparatus for combined reflectance and luminescence measurements (Workpackage 9 “New portable instrumentation”).

Since 2004 he is responsible for an agreement between the Chemistry Department of Perugia and the Umbra Acque s.p.a for the localization of water wastes in the public water network by means of fluorescein luminescence marking.

In the period 2009-2011 he was leader of a research agreement inside a Ministry Project involving Alcantara S.p.A. which aim was light stability study and color instrumental. This agreement, founded with 250.000 Euro.

Since 2015 November 1<sup>st</sup> he is the President of the Excellence Centre SMAArt (Scientific Methodologies Applied to Archaeology and Art) and Coordinator of the Research group Materials for Artworks' Conservation at the Chemistry, Biology and Biotechnology Department of the University of Perugia.

#### Affiliations:

2000 – 2005: secretary/treasurer of the Gruppo Italiano di Fotochimica, Italian Section of European Photochemistry Association.

2002 – 2005: member of Commissione d'Area 03 (Chemical Sciences and Pharmaceutical Sciences) of the University of Perugia.

2006 – 2013: member of Commissione Paritetica per la Didattica of Degree course in Chemical Sciences of the University of Perugia.

2008 – today: member of Collegio dei Docenti of PhD course in Chemical Sciences of the University of Perugia.

2005 – today: associate to INFN Sez. di Perugia, he join research activity in the international projects “Borexino” – Section "Optical Properties of scintillators system" “Meta LS” (ended in 2010) and “CTF-RD Dark Side”.

2010 – today: associate to CNR, he join research activity at CNR Institute for Sciences and Molecular Technology (ISTM) at the Chemistry Department, University of Perugia.

2012 – 2016: he join the Applied Spectroscopy journal Editorial Advisory Board.