

CURRICULUM VITAE PROF. RIOBERTO GOBETTO

Prof. Roberto Gobetto, born on the 7th Sept 1956, obtained his degree with honors in Chemistry in 1980 at the University of Turin. In 1983 he became Researcher at the Faculty of the University, working with the group of Prof. S. Aime in the development of new NMR techniques for studying the structure and dynamics of organometallic complexes.

In 1992 became Associate Professor of General and Inorganic Chemistry and since 2000 Full Professor in the same discipline.

Prof. Gobetto is actually teaching General and Inorganic Chemistry (1st year Chemistry Degree), Inorganic chemistry (2nd year Chemistry Degree), Magnetic Resonance (1st year Graduate Degree Course in Advanced Chemistry Methodologies), Coordination and Bioinorganic Chemistry (2nd year Graduate Degree Course in Advanced Chemistry Methodologies).

He has been a member of the Governing Council of the Interdivisional Group of Organometallic Chemistry of the Italian Chemical Society. As a member of the Governing Council of Interdivisional Group of Magnetic Resonance he organized several PhD schools of NMR at national and international level. He organized at Villa Gualino (Torino) the School of NMR for Identification of Organic Molecules (26-30 September, 2002), the School for Advanced NMR (15 - 19 September, 2003), the solid state NMR School (August 30 - September 3, 2004), the School of NMR basic course (12 -16 September, 2005) The School of NMR Advanced Course (August 29 September 1, 2006).

Since 1st January 2012 is the Chair of Division of Inorganic Chemistry of Italian Chemical Society.

He has been coordinator of the “Laurea Specialistica” (graduate degree course) “Metodologie Chimiche Avanzate”, University of Torino in the period 2004-2007 and President of the Education Commission of the Degree course in Chemistry in the period 2001-2007.

In the period 2007-2010 he has been President of the Chemistry Degree of the University of Turin.

Since 2009 is the Coordinator of the Ph.D. program in Chemical and Material Science of the Doctorate School in Natural Science and Innovative Technologies of the University of Turin.

He has been the supervisor of more than 90 degree thesis and 10 PhD thesis.

In 1986 Prof. Gobetto was visiting professor at California State University, Northridge (Los Angeles, USA) under the supervision of Professor Edward Rosenberg, studying NMR investigation techniques for the study of fluxional processes and applications of ^{199}Hg spectroscopy in organometallic complexes of mercury.

In 1990 he was visiting professor at the University of Durham (UK), where he tackled the study of the second order quadrupolar effects on CPMAS NMR spectra of nuclei with spin $\frac{1}{2}$.

In 1991 he received the Bonati award from the Italian Chemical Society.

In 2007 he received the Gold Medal of the Interdivisional Group of Magnetic Resonance of the Italian Chemical Society.

His main work has been devoted to the study of inorganic and organometallic systems. He developed also advanced NMR techniques in solution and solid state for the study of organometallic complexes, materials, pharmaceutical compounds and catalyzed reactions.

In particular his research activities involve the:

- a) synthesis of new classes of organometallic complexes and transition metal clusters, study of their properties and reactivity.
- b) synthesis and application of luminescent transition metal complexes.
- c) study of the ligand dynamics in transition metal complexes in order to correlate the fluxionality of ligands with structural and electronic properties.
- d) development and application of MAS and CPMAS techniques for studying the structure of materials and inorganic compounds in the solid state.
- e) study of solid dynamics.
- f) study of the hydrogen bond in supramolecular adducts by means of solid state NMR and correlation with data obtained from diffraction x-ray.
- g) Study of the second order quadrupolar effects on nuclei with spin $\frac{1}{2}$ bonded to quadrupolar nuclei, and to extent the theory to nuclei with spin $\frac{5}{2}$, $\frac{7}{2}$ and $\frac{9}{2}$.
- h) study of nonconventional hydrogen bonds by means of NMR relaxation times.
- i) Study of isotopic effect by means of NMR techniques.

j) Study of the quadrupole coupling constant in ^{2}D , ^{17}O and ^{59}Co as parameter to be correlated with electronic and structural data.

k) Use of the PHIPNMR (parahydrogen induced polarization) technique for the study of reaction mechanisms and potential applications for MRI. In particular, it was first described the transfer of hyperpolarization on equivalent nuclei and the theory of the transfer of the hyperpolarization from proton to deuterium.

He is author of 245 papers on international journals, 5 chapters on scientific books, three patents and a book of general and inorganic chemistry for university students