

## Giuseppe Resnati

Bibliometrics (Web of Science-Core Collection, timespan 1985-2021, as of 2021-01-14):

H-index, 66

times cited: 22222

year citations: 2193 (2020), 2077 (2019), 1874 (2018);

most cited papers: 2008, 47, 6114 *Angew. Chem. Int. Ed.*, 1657 cit.; 2005, 38 386 *Acc. Chem. Res.*, 1519 cit.; 2016, 116, 2478, *Chem. Rev.*, 1477 cit.

Prof. Resnati is full professor of Chemical Basis of Technologies at the Department of Chemistry, Materials and Chemical Engineering "Giulio Natta" of the Politecnico di Milano since 2001. Before that, he was associate professor at the same university (since 1997) and Team Leader at the Institute of Molecular Science and Technology of the National Research Council in Milano.

The research interests of Prof. Resnati are in the field of supramolecular chemistry with a particular attention to the role of chalcogen and halogen atoms in recognition and self-assembly phenomena. Late nineteen nineties he introduced the concept and the use of halogen bond, namely the non-covalent interaction wherein halogen atoms work as the positive site (electron acceptor site, Lewis acid). The concept is now receiving attention worldwide in the chemical community, and it is increasingly of interest also to other scientist, e.g. biologists, pharmacologists, materials scientists. More recently he extended the mindset developed in relation to the halogen bond to elements of other groups of p block of the Periodic Table focusing on the tetrel and chalcogen bonds, the interactions where the electrophilic site is an element of group 14 and 16, respectively. Notably, Prof. Resnati coordinated the IUPAC projects which resulted in the IUPAC definitions of the halogen bond (2013) and chalcogen bond (2019) and the impact of the corresponding papers is measured by the obtained citations which were 916 and 63, respectively. Prof. Resnati developed reliable heuristic principles for the construction of one-, two-, and three-dimensional architectures. As a part of his interest in solid systems, he studied various molecular materials and the way to control and tune their functional properties via the control of their structure and the intermolecular interactions determining the solid state. In particular, he has been studying self-assembled and fluorinated liquid crystals, non-linear optical materials, organic porous networks. He is also interested in fluorine chemistry, encompassing new synthetic approaches based on perfluorinated catalyst, reagents, and solvents and the asymmetric synthesis of bioactive fluoroorganic compounds.

He is author of more than three hundred and fifty original papers on high impact journals, of several reviews, chapters in books, entries in technical encyclopedias. He is the inventor of seven patents valid in most WTO countries.

Prof. Resnati has been Guest Editor of three books (published by Springer in 2016, 2015, and 2008) on interactions involving halogen atoms and of several special issues of international journals: "Celebrating 150 Years from Mendeleev: The Periodic Table of Chemical Interactions", *Coord. Chem. Rev.*, Elsevier, 2020; "The Halogen Bond: A New Avenue in Recognition and Self-assembly", *New J. Chem.*, RSC, 2018; "Halogen Bonding: From Self-assembly to Materials and Biomolecules", *CrystEngComm*, RSC, 2013; "Halogen Bonding in Crystal Engineering: Fundamentals and Applications", *Cryst. Growth Des.*, ACS, 2012; "Fluoroorganic Chemistry: Synthetic Challenges and Biomedical Rewards", *Tetrahedron*, Elsevier, 1996; "Fluorine Chemistry in Italy", *J. Fluorine Chem.*, Elsevier, 2004; "Networks on Fluorine Chemistry Supported by the European Community", *J. Fluorine Chem.*, Elsevier, 1996.

Prof. Resnati was NATO Fellow (1990) at Clemson (USA), fellow of the Japan Society for the Advancement of Science (2001) at Nagoya University (Japan), and visiting professor at the Université Paris XI (France, 1993) and the Université de Strasbourg (France, 2012). He was awarded the prize "European Lectureship in Chemical Sciences" by the Royal Society of Chemistry (RSC) in 2010; the prize "Intermolecular Interactions

and Structural Aspects in Organic Chemistry”, by the Italian Chemical Society in 2008; the “Corrado Fuortes Award”, by the Istituto Lombardo Accademia di Scienze e Lettere in 1986.

He is coordinating (2021-2023) the project entitled “Non-covalent Interactions in 3D Molecular- and 2D Surface Crystal Engineering: toward Functional Materials and Sustainable Chemistry” which is developing a laboratory on advanced structural characterization at the Tomsk Polytechnic University within the frame of the Russian “Mega Grants”. He is University Associate at the Center for Nanosciences and Technology of the Italian Institute of Technology (2011 onwards).

He has taken part, as coordinator or contractor, in several projects of the European Union (projects HCM, TMR, RTN, COST, INTAS), of the Ministero dell'Università e della Ricerca Scientifica as national coordinator (FIRB 2011, PRIN 2003, 2005, 2008) or local coordinator (FIRB 2001, PRIN 1999, 2001), and of regional funding agencies (Fondazione Cariplo).

Prof. Resnati is a member of the Academia Europaea (2012 onwards), of the European Academy of Sciences (2015 onwards), of the Commission on Structural Chemistry of the International Union of Crystallography (IUCr, 2011 onwards), of the CNR Commission for Italy participation to IUPAC (2012-2018).

He is chairman of the projects “Basic Terminology of Crystal Engineering” of the International Union of Pure and Applied Chemistry (IUPAC, 2013 onwards) and “Categorizing Chalcogen, Pnictogen, and Tetrel bonds and Interactions Involving Groups 14-16 elements” (IUPAC, 2016 onwards) and has been chairman of the project “Categorizing Halogen Bonding and Other Noncovalent Interactions Involving Halogen Atoms” (IUPAC, 2009-2011).

He served and is serving as a referee of projects for major scientific funding agencies (among others ERC, NIH, NSF, IUF) and journals (among others Science, Nature, Nature Chem., Nature Commun., J. Am. Chem. Soc., Angew. Chem. Int. Ed., Chem. Rev., Chem. Soc. Rev., J. Mater. Chem., Chem. Sci., Chem. Commun.).

He is, or has been, in the editorial board of some international journals: Sust. Chem. Pharm., Elsevier, 2017 onwards; Crystals, MDPI, 2017 onwards; Cryst. Growth Des., ACS, 2012 onwards; J. Fluorine Chem., Elsevier, 2001 onwards; Il Farmaco, Elsevier, 1990-2000.

Prof. Resnati has been chair of the 21th International Symposium on Fluorine Chemistry (Como, Italy, 2015) and of the 1st International Symposium on Halogen Bonding (Porto Cesareo, Italy, 2014).

He has been in the Scientific Advisory Board of many international conferences and symposia: 23rd, 22th, 20th, 19th, and 18th International Symposium on Fluorine Chemistry (Quebec, Canada, 2023; Oxford, United Kingdom, 2018; Kyoto, Japan, 2012; Jackson Hole, USA, 2009; Bremen, Germany, 2006); 19th, 18th, 17th, 16th, 15th, and 14th European Symposium on Fluorine Chemistry (Warsaw, Poland, 2019; Kiev, Ukraine, 2016; Paris, France, 2013; Bled, Slovenia, 2010; Prague, Czech Republic, 2007; Poznan, Poland, 2004); 9th, 8th, 7th, 6th, and 5th International Meeting on Halogen Chemistry (HALCHEM) (Perugia, Italy, 2019; Inuyama, Japan, 2017; Czestochowa, Poland, 2015; Bangalore, India, 2012; Santa Margherita di Pula, Italy, 2010); 5<sup>th</sup>, 4th, 3rd, and 2nd International Symposium on Halogen Bonding (Chiba, Japan, 2022; Stellenbosch, South Africa, 2020; Greenville, SC, USA, 2018, Gothenburg, Sweden, 2016); 2<sup>nd</sup> and 1st International Conference on Noncovalent Interactions (Strasbourg, France, 2021; Lisbon, Portugal, 2019); 2<sup>nd</sup> and 1st Indian International Symposium on Fluorine Chemistry (Hyderabad, India, 2014; New Dehli, India, 2012); 6th IUPAC Conference on Green Chemistry (Venice, Italy, 2016).

Prof. Resnati has been chair of Symposia within: 2<sup>nd</sup> International Conference on Noncovalent Interactions (Strasbourg, France, 2021); XXV Congress and General Assembly of the International Union of Crystallography (Prague, Czech Republic, 2021); 31st European Crystallography Meeting (Oviedo, Spain, 2018); 3rd International Symposium on Halogen Bonding (Greenville, SC, USA, 2018); XXII Congress and General Assembly of the International Union of Crystallography, Satellite Symposium (Madrid, Spain, 2011); 26th European Crystallography Meeting (Darmstadt, Germany, 2010); 25th European Crystallography Meeting (Istanbul, Turkey, 2009); 238th ACS National Meeting (Washington, DC, USA, 2009); 234th ACS National Meeting (Boston, MA, USA, 2007).