

About the Authors



Mario Pagliaro (b. Palermo, 1969) is a research chemist and management thinker based in Palermo at Italy's CNR, where he leads a research group and the new Institute for Scientific Methodology. His research focuses on the development of functional materials for a variety of uses and operates at the boundaries of chemistry, biology and materials science. Between 1998 and 2003 he led the management educational center, Quality College del CNR, using the resulting income to equip his laboratories and establish a

research group which currently collaborates with researchers in ten countries.

Mario holds a PhD in chemistry from Palermo University (1998), the topic of his thesis being the selective oxidation of carbohydrates; mentors were David Avnir in Jerusalem and Arjan de Nooy in the Netherlands. He has also studied and worked in France and Germany. In 2005 he was appointed *Maître de conférences associé* at the Montpellier Ecole Nationale Supérieure de Chimie. Between 1993 and 1994 he worked in the Netherlands, initially at the Rijks Universiteit, Leiden, and then at the TNO Food Research Institute in Zeist. In 1998 he was with Michel Vignon at the Grenoble's CNRS, and in 2001 he joined Carsten Bolm's research group at Aachen Polytechnic. Mario has co-invented a number of novel technologies, some of which have been commercialized. He is author of the management books *Scenario: Qualità* and *Lean Banking*. He is the author of three international patents and a large number of scientific papers. Since 2004 he has organized the prestigious Seminar "Marcello Carapezza".



Michele Rossi (b. Milan, 1939) is a full professor of inorganic chemistry at Milan University, where he currently teaches in the Faculty of Science. He graduated in industrial chemistry at the University of Milan in 1963. In 1974 he became Professor of Inorganic Chemistry at the University of Bari and since 1988 he has held a similar position at the University of Milan. Professor Rossi's current research is in the fascinating world of nanoscience, particularly metal-based catalysis for the activation of small molecules. His research group has discovered the surprising catalytic activity of gold nanoparticles in liquid-phase oxidation of organic compounds. Professor Rossi has been engaged by the World Gold Council for the preparation of gold on carbon catalysts as the reference standard for liquid-phase oxidation. This standard catalyst is in use throughout the world among scientific and industrial researchers.

His scientific activity, the subject of over 150 scientific papers and a number of patents, began at the prestigious school of Lamberto Malatesta and Adriano Sacco, specializing in organometallic chemistry. In one remarkable study, Sacco and Rossi discovered the first example of reversible coordination of molecular nitrogen, at room temperature and pressure, which opened the route to "nitrogen fixation", the front-line inorganic chemistry of the period 1968–1978. From this research arose the now famous compound $\text{CoHN}_2(\text{PPh}_3)_3$, which has since become a standard feature of chemistry textbooks. During this period he joined Sei Otsuka's group in Osaka, where he spent one year working on low-valency metal complexes. Later he moved into research on the catalysis of fine chemicals synthesis. Applications of catalytic hydrogenation and oxidation have been the source of several scientific contributions and patents in the technology of clean processes. Professor Rossi's research group collaborates with a number of other research groups in Italy and abroad, and is a partner in the EU Auricat research project aimed at developing the industrial application of gold catalysis.