



Preface



The 9th International Vanadium Symposium has been celebrated, for the first time in Italy, in July 2014, organized by us, Valeria Conte and Giulia Licini. The program contained almost 70 contributions (oral and poster) from 27 countries.

The long story of the vanadium Meetings dates back to the 90s of the last century. The first official one took place in 1997 in Cancun, Mexico. However there were other occasions to gather researchers active in the fascinating world of this metal, which had happened a few years before, and also after, the starting of the International Vanadium Meeting. Therefore we are already at the end of the second decade of this saga. Here is the list of all the official meetings: V1 held in Cancun, Mexico in 1997; V2 in Berlin, Germany in 1999; V3 went to Japan, Osaka, in 2001; then V4 moved back to Europe in Szeged, Hungary in 2004; V5 was in San Francisco, USA in 2006; V6 was in Lisboa, Portugal in 2008; V7 once more in Japan, Toyama, in 2010 and V8 took place in Washington DC, USA, in 2012.

For all these meetings, the high quality of the science presented allowed us to prepare special issues published in various high quality journals:

V1 *ACS Symposium Series, Vol. 711*, Oxford University Press, Washington, DC, USA, **1998**;

V2: *J. Inorg. Biochem.*, (1–2) 80, **2000**;

V3: *Coord. Chem. Rev.*, (1–2) 237, **2003**;

V4: *Pure Appl. Chem.*, (9) 77, **2005**;

V5: *ACS Symposium Series, Vol. 974*, Oxford University Press, Washington, DC, USA, **2007**;

V6: *J. Inorg. Biochem.* (4) 103, **2009** and *Pure Appl. Chem.* 81, **2009**;

V7: *Coord. Chem. Rev.* (19–20) 255, **2011**;

and V8: *Dalton Trans* 42, **2013**.

Starting with the 4th meeting in 2004, a Vanadis Award has been presented to a renowned chemist in the field of vanadium chemistry. Present awardees are Debbie C. Crans (2004), Dieter Rehder (2006), Toshikazu Hirao (2008), Vincent L. Pecoraro (2010) and Israel E. Wachs (2012).

The 9th symposium took place at the “Centro Congressi San Gaetano” for the first two days while, in the last day of the symposium, the plenary lecture from Prof. B.-J. Uang (organizer of V10 meeting in 2016 in Taiwan), the Vanadis lecture, as well as the superb presentation given by V.L. Pecoraro, were given at Archivio Antico of the “Bo” old Building of Padova University, near the Galileo Galilei Chair.

The 6th Vanadis Award winner was Joao Costa Pessoa from Lisboa, Portugal, who has been involved in vanadium chemistry for more than 3 decades. He is one of the world’s experts in vanadium EPR spectroscopy and speciation; he has also been involved in solution studies dedicated to the interactions of amino acids with vanadyl cations, in the binding of vanadium species to transferrin, in the development of insulin enhancing agents and of vanadium-based catalysts and more recently in application to parasitic diseases. In the Vanadis award lecture, Costa Pessoa described his work over time and also nicely showed the very many collaborations he had with other researchers all over the world.

The main themes presented in the symposium were Vanadium Inorganic Chemistry – Coordination, Speciation and Structure; Vanadium-Induced or – Catalyzed Reactions. Vanadium Bioinorganic and Biological Chemistry and Vanadium Transport, Toxicology and Enzymology, Therapeutic Applications of Vanadium Compounds and New Materials Containing Vanadium and their Processes.

The review articles described in this issue by leading researchers cover the latest aspects of vanadium science. The work described spans from the chemistry of vanadium haloperoxidases enzymes (by Leblanc and Vilter) to vanadium–phosphatase complexes (by McLauchlan and Crans) and to the analysis of which mechanisms ascidians use to selectively accumulate vanadium ions (by Ueki). A general overview of the interaction of vanadium with proteins has also been offered (Costa Pessoa). In the catalysis field both oxidation (Pombeiro) and C–C bond cleavage reactions (Licini) have been reviewed as well as model catalysts studies on vanadium oxide nanostructures on another oxide (Granozzi); also gas-phase reactions have been considered in the presence of mixed-oxide catalysts with vanadium as the key element (Cavani). Techniques, such as High-frequency and -field electron paramagnetic resonance for vanadium(IV, III, and II) complexes (by Krzystek, and Crans) and electrochemistry (Floris) have been carefully analyzed.

The state of the art in the use of Vanadium compounds as potential drugs in cancer therapy was surveyed (by Salifoglou) while a more general evaluation of the use of vanadium compounds for the treatment of diabetes, parasitosis, for anti-viral and anti-bacteria use etc. was presented (Gambino, Etcheverry and Costa Pessoa).

This issue has provided many diverse topics, which will permit researchers, expert and also new comers to the field, to find interesting and useful information for their studies.

Finally, we would warmly thank the authors for their contributions, and the participants to the meeting for making the International Vanadium Symposium a scientific success and we cordially invite them to the next V10 International Vanadium Meeting, in Taipei, Taiwan in 2016.

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13 April 2015
Available online 23 April 2015