



Preface

Published online: 22 January 2019

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Dear Colleagues,

SOL-GEL 2017, the 19th International Sol-Gel Conference, was organized from September 3rd to 8th, 2017, in Liège, Belgium and gathered 430 participants from 40 countries.

The great success of the Sol-Gel Conference series over the past 35 years attests that sol-gel science and technology is a highly multidisciplinary research area. This biennial conference, which gathers the most relevant and innovative advances in the field, from the point of view of scientific research and industrial developments, had previously been organized in Padova (Italy, 1981), Würzburg (Germany, 1983), Montpellier (France, 1985), Kyoto (Japan, 1987), Rio de Janeiro (Brazil, 1989), Sevilla (Spain, 1991), Paris (France, 1993), Faro (Portugal, 1995), Sheffield (UK, 1997), Yokohama (Japan, 1999), Padova (Italy, 2001), Sydney (Australia, 2003), Los Angeles (CA, USA, 2005), Montpellier (France, 2007), Porto de Galinhas (Brazil, 2009), Hangzhou (China, 2011), Madrid (Spain, 2013) and Kyoto (Japan, 2015).

The sol-gel process is a versatile tool for the design of materials with tunable and controlled morphologies, properties and shapes. Its flexibility allows to produce materials with high performances for applications in many different fields. The following 16 topics of the 19th edition in Liège cover both the fundamental and applied aspects of this research area:

- Chemistry and fundamentals of the sol-gel process and non-conventional synthesis methods
- Functional organic-inorganic hybrid materials
- Nano- and micro-structured materials: particles, colloids, fibers, self-assembly, composites
- Porous materials (aerogels, xerogels, cryogels, template-based) and hierarchical structured materials

- Biomaterials, biohybrids and bioinspired materials
- Carbon and hybrid carbon-based gels
- Protective and functional coatings and thin films
- Characterization and modelling techniques for sol-gel materials
- Sol-Gel materials for (photo-) catalysis and membranes
- Sol-Gel materials for energy and environmental applications
- Sol-Gel materials for health and medical applications (including controlled drug release)
- Sol-Gel materials for electronic, magnetic and ferroelectric applications
- Sol-Gel materials for sensors, optic, photonic and optoelectronic applications
- Sol-Gel materials for insulation
- Industrialization of sol-gel science and technology
- Sol-Gel as alternative to PVD and other conventional industrial processes

Many of these topics are found in the present special issue that gathers papers related to keynote, invited and award lectures, as well as to a selection of oral communications and posters. As such, this issue can be viewed as a representative sample of the wide variety of today's research in sol-gel science and technology.

We wish you a rewarding reading.

The Local Organizing Committee of Sol-Gel 2017, Benoît Heinrichs (Chair), Nathalie Job (Vice-Chair), Stéphanie Lambert, Alexandre Léonard - Guest Editors Christelle Alié, Cédric Calberg, Rudi Cloots (Vice-Chair), Frédéric Boschini