Conference announcement

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5th International IUPAC Conference on Green Chemistry (Durban, South Africa, August 17–21, 2014)

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ICGC conference history and main features of green chemistry

The International IUPAC Conferences on Green Chemistry (ICGC) were initiated and are endorsed by the IUPAC Subcommittee on Green Chemistry. They are meant to emphasise the importance of green chemistry, to promote research and dissemination of information and to provide an ideal forum for interchanges of research experiences, approaches and results. The first conference was held in Dresden (Germany) in 2006, followed by conferences in Moscow (Russia, 2008), Toronto (Canada, 2010), and Foz do Iguaçu (Brazil, 2012).

Green chemistry is the chemist’s answer to the challenges of sustainable development. It aims at preventing environmental pollution and consequent damages to human health by targeting the production and utilization of substances and making them safer and environmentally compatible. Its well-known principles focus on substances and their production and utilization. They entail:

- Careful selection of the substances to be produced, avoiding those that are known to be hazardous or harmful, and replacing them with more benign ones.
- Careful selection of the production processes, avoiding processes that involve harmful or hazardous intermediates, maximising the yield and minimising wastes (atom economy), minimising energy requirements, and utilising renewable feedstock whenever possible.
- Attention to the entire utilisation cycle of substances, including their final disposal.

The challenges implied by these objectives are self-evident. They involve an enormous amount of research for the design of new, more environmentally benign substances to replace harmful ones, and of new production processes compatible with the green principles. The huge size of this effort requires collaboration among chemists worldwide, and the recruitment of an adequate number of young scientists to join in the endeavour.

Key objectives of the 5th ICGC

The main objectives of the 5th ICGC are to emphasise the importance of green chemistry for sustainable development, and to promote novel research and novel collaborations, by bringing together experts and interested parties from all over the world and encouraging interactions and networking.

It is the first time that this conference comes to Africa. Therefore, promoting green chemistry in Africa and encouraging networking between African chemists and chemists from other continents will be a primary objective. The fact that industry is in a currently emerging state in many African contexts makes Africa an ideal ground for the incorporation of green chemistry into industrial development since its inception or soon afterwards.

Conference topics and selected speakers

The conference will be a multidisciplinary event considering all the major areas of green chemistry, including green synthesis processes, catalysis, environmentally benign solvents, energy storage, biofuels, green chemistry education, roles of green chemistry for agriculture, policies, and other interesting issues. A session on sustainability and security will be organised in collaboration with OPCW (Organisation for the Prohibition of Chemical Weapons).
Interfaces with other chemistry research areas and with other sciences will be actively encouraged. Special attention will also be given to the roles of green chemistry in fast-growing economies.

The objective of facilitating a truly worldwide overview of green chemistry is realised also through the presence of speakers from all continents. The plenary speakers comprise Prof. Claudio José de Araújo Mota (Department of Chemistry, Universidade Federal do Rio de Janeiro, Brazil); Prof. Peter Mahaffy (Department of Chemistry, The King’s University College, Edmonton, AB, Canada); Prof. Bruno G. Pollet (South African Institute for Advanced Materials Chemistry, University of the Western Cape, Cape Town, South Africa); Prof. Pietro Tundo (Department of Environmental Sciences, Informatics and Statistics, Cà Foscari University, Venice, Italy); and Prof. Tao Zhang (Director, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China).

Keynote speakers from different countries and continents will talk about all the major issues of green chemistry.

**Venue**

Durban is a very active and big city in South Africa and the port of Durban is the largest and busiest in Africa. Durban is a meeting point of different cultures, from the Zulu to a considerable Indian community, and is the most popular holiday destination in the country. There are many tourist attractions in the city, such as uShaka Marine World, and several scenic attractions – such as the Valley of a Thousand Hills – are within a short drive from the city.

South Africa offers a variety of attractions, from natural beauties and wildlife to cultural heritage and history. Altogether, the conference constitutes an excellent opportunity for combining an exciting high-quality scientific experience with interesting and fascinating tourist experiences.