## Preface

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# 12th International Conference of the European Chitin Society and 13th International Conference on Chitin and Chitosan (EUCHIS/ICCC 2015)

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The 2015 12th International Conference of the European Chitin Society jointly with 13th International Conference on Chitin and Chitosan (EUCHIS/ICCC 2015) was held from August 30th to September 2nd in Münster, Germany. ICCC is the largest and most important international conference of the chitin and chitosan scientific community, organized every third year, in turn jointly with the biannual meetings of the European Chitin Society EUCHIS or of the Ibero-American Chitin Society SIAQ, or the Asia Pacific Chitin and Chitosan Symposium APCCS. After Taipeh, Taiwan, in 2009 and Fortaleza, Brazil, in 2012, it was EUCHIS's pleasure last year. This was the first ICCC held in Germany, and the first chitin and chitosan conference sponsored by IUPAC. With ca. 300 attendees from all over the world, it was also probably the largest ever chitin and chitosan conference, and the first one with a sizeable industrial exhibition. A Young Researcher Symposium preceded ICCC for the first time, and it was followed by three parallel post-conference workshops, on Chitosan Analysis, Mucoadhesion, and Electrospinning, the latter sponsored by the COST Action MP1206.

EUCHIS/ICCC 2015 marked a turning point in the research and business of chitosans when well-defined "second generation" chitosans with reliable performance are becoming available on an industrial scale to allow the development of novel chitosan-based products. It offered an ideal opportunity for chitin and chitosan researchers from Academia and Industry to discuss recent developments and future options. Chitosan has long been recognized as one of the most promising biopolymers, with potential applications in areas as diverse as material and food sciences, biomedical and agricultural sciences. However, the surprisingly complex structure-function relationships of partially acetylated chitosan polymers, both regarding their physicochemical properties and their biological activities, has long prevented the successful development of marketable products, in particular those that would be based on the biological functionalities of chitosans. Research of the past decade has paved the way for today's second generation chitosans with better-defined structures and more reliable functions, and the industrial exhibition at EUCHIS/ICCC 2015 provided evidence that chitosan, which has been a "promising" biopolymer for so long, is finally delivering.

But the scientific part of EUCHIS/ICCC 2015 was equally proof that the development is continuing, discovering paths towards tomorrow's third generation chitosans. Consequently, one highlight of the conference was the central plenary session on "The Future of ChitosanS: New Sources, New Applications, New

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Markets". Experts from Academia and Industry shared their visions as to what we can expect in the years to come, both concerning scientific discoveries and concerning the development of chitosan-based products. Topics were Alternative Sources for Chitin and Chitosans, Lessons to be Learned from Other Polysaccharides, Chitosan-Based Product Development and Registration, and Upcoming Markets for Chitin and Chitosans.

One of the main goals of the conference was to offer ample opportunities for meetings and exchange between young and experienced researchers, and between researchers from Academia and Industry. A Match Making hour with "speed date" type of meetings was organized through a conference App which scheduled individual meetings. The App which was provided by the European Research Project Nano3Bio on biotechnological chitosan production is available for other conferences on demand. Poster sessions offered ample time and opportunities for discussions, and the authors of 10 posters which were selected based on a voting by all participants were given an opportunity to present their results in a plenary Speed Talks session. Of those, the poster prizes were elected electronically through the conference App. These sessions showed that the organizing committee valued poster and oral contributions equally and as a consequence, all authors were invited to submit their work to be considered for publication in Pure and Applied Chemistry, and the present issue of the journal presents those articles that successfully passed the normal rigorous peer review system.

**Organizing teams:** EUCHIS/ICCC 2015: Bruno Moerschbacher, Francisco Goycoolea and Nour Eddine El Gueddari from the University of Münster, ex-EUCHIS president Martin Peter from University of Potsdam, Germany, current EUCHIS president Angeles Heras from University of Madrid, Spain, and Katja Richter from Heppe Medical Chitosan in Halle, Germany, supported by a large and strong International Scientific Advisory Board. Pre-conference Young Researchers' Symposium: André Nordhues and Shoa Naqvi from the University of Münster, Tonimar Senra and Jorge Delezuk from the University of São Paulo, Brazil, and Kazuo Azuma from the University of Tottori, Japan. Post-conference Workshops on Chitosan Analysis: Nour Eddine El Gueddari from the University of Münster; Mucoadhesion: Carla Caramella from the University of Pavia, Italy, and Francisco Goycoolea from the University of Münster; Electrospinning: Gustavo Rivera from the University of Münster.

This issue of Pure and Applied Chemistry, supported by IUPAC, will include original research contributions addressing a diversity of topics, namely chitosan derivatives to generate materials for wastewater treatment, novel technologies for hydrolysis of chitin and chitosan, hydrogels derived from interactions of chitosan and phospholipids, and chitosan hybrid aerogels for antibacterial control and photosensitive materials.