

Celebrating 40 years of achievement by the Water Research Commission

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This special edition of *Water SA* commemorates 40 years of achievement by the Water Research Commission, celebrated at a national conference held in Kempton Park from 31 August to 1 September 2011. This edition is devoted to material presented at the celebratory conference. The special edition is divided into two main sections, the first being an editorial overview of the conference proceedings and the second a collection of peer-reviewed papers based on scientific presentations made during the conference. Since the latter were volunteered and not specifically selected, they are not to be regarded as fully representative of the scientific ground covered by the conference. It stands to reason that they are even less representative of the scope of the WRC's research investments throughout its 40-year history. Nevertheless, these papers do provide an indication of the complex issues that have had to be researched and the quality of the research done in response to these issues.

The editorial overview of the celebratory conference commences with the conference's introductory address, given by Professor Stanley Ridge of the University of the Western Cape. Syntheses of each of the five thematic sessions that dominated most of the conference programme follow. The overview then concludes with a look into the future by Ms Barbara Schreiner, a former Deputy Director-General of the Department of Water Affairs and Advisor to the Minister.

The introduction by Prof. Ridge deals with the dramatic changes in the world and in South Africa over the past 40 years, and how the implications of these changes need to be carefully teased out, *inter alia*, with regard to future development and the need for appropriate knowledge. Well-researched knowledge is needed if we are to be able to envision who we are, what we can be, and how we should get there. This aligns very well with the character of the WRC, which over the 40 years of its existence has cemented its position as South Africa's undisputed national hub for water-centred knowledge. Where would the country and particularly the water sector stand today, were it not for the more than 2 000 research projects which have been fully or partially funded by the WRC over the years, for the nurturing and leadership that the WRC has provided to the water research community and for the WRC's multi-pronged drive to disseminate and apply generated knowledge for the good of the sector and the country? Responsible representatives of many countries have openly wished for WRC-like organisations that would similarly benefit the water sectors in their own countries.

The papers presented at the 40-year celebratory conference, and to a degree reflected in the syntheses of thematic sessions, provide a small sample of the impacts that WRC research funding and leadership have had over the years. Impacts in the earliest years of the WRC's existence stemmed from a limited portfolio of technologically-oriented research projects focusing on wastewater treatment and water reclamation. More recently, the impacts being sought are very much broader in scope. Research investments attempt to address the entire water cycle in a manner which is balanced and designed to deliver the knowledge needed to ensure future water security and the optimal use of water for social and economic growth and development. Such research is no longer the exclusive domain of the natural scientist and engineer. The integration of social scientists and resource economists into research teams is both necessary and taking place to an ever-increasing degree.

Whilst celebrating the past, a responsible organisation like the WRC needs to prepare itself to meet the challenges of the future. The identification and contextualisation of future challenges is one of the main themes reflected in the conference overview. It is evident in Prof. Ridge's introduction, in each of the session syntheses and, most especially, in Barbara Schreiner's closing address. The very way research is done, the type of research done and the results achieved will need to meet challenges, *inter alia*, of supporting implementation of policy and best practice (but not to the exclusion of long-term and blue-sky thinking), of increasing adaptability and the ability to manage and understand complexity, change and risk, and of supporting national objectives, which will invariably mean putting people at the centre of the research agenda.

Despite the fact that, given the time constraints, it was not possible for the conference to cover a representative cross-section of past and current water research issues, ample evidence has nevertheless been provided of excellence in water research over a period of 40 years, of the sound foundation from which emerging issues can be tackled and of the considerable ability and enthusiasm among a new generation of researchers. All of this bodes well for overcoming the ongoing challenges of ensuring future water security whilst using available water resources for greatest benefit to South Africa's social and economic development.

The presentations made at the Conference are available on the WRC website (www.wrc.org.za).

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