

## Preface

Nanoscience has been with us ever since ‘features’ on nano-scale were first seen under a microscope. Nanotechnology came about much more recently, when first tools were developed for characterisation of the ‘nano-features’ and for their manipulation. Coming soon after the ‘dot-com’ IT bubble had burst, nanotechnology became the new holy grail for venture capitalists and focus of media. Fantastic developments affecting all aspects of life were proposed. However, it was clear that returns on investment in this case could not be instantaneous and the media hype was, perhaps, not as great as in the past (e.g. regarding superconductivity).

First applications of nanotechnology in construction research occurred in mid-1990s. There were few centres of such research; the novel nano-instrumentation was very expensive, often only custom-built. However, when first products exploiting nanotechnology entered construction market, need arose for a forum to review the research and evaluate its realistic potential. This led me to propose the Intl. Symposium on Nanotechnology in Construction (NICOM1), held in Paisley, Scotland in mid-2003. It was very successful; it attracted a very wide spectrum of participants. In addition to researchers in construction and engineers, there were architects, seeing applications in ‘nano-houses’ of future, physicists and other scientists who came to examine application of their know-how in the broad and economically significant construction industry. Industrialists and end-users were there too, to learn and to separate reality from the media driven publicity.

The NICOM2, organised by Dr A Porro and his team at Labein, was held in Bilbao, Spain in 2005. The event already indicated that exploitation of nanotechnology in construction was less than expected, very few new nanotechnology-based products appeared on the construction market.

A decade after the peak of the nanotechnology media hype, six years after the NICOM1, the 3<sup>rd</sup> Symposium on Nanotechnology in Construction (NICOM3) will discuss developments again and analyse reasons for the uneven advances across different sectors of construction. Predictions of progress will be now more reliable due to greater knowledge and amount of evidence in hand. However, the global financial crisis presents a new factor, impact of which no-one can accurately foresee. Papers for NICOM3 indicate that the initially very wide interest has narrowed (cement-based materials tend to dominate) and confirm that the main advance was in knowledge and understanding, followed by instrumentation. Aspects such as health & safety and metrology have now acquired much higher significance but commercial exploitation remains slow.

Global interest in NICOM3 confirms that the NICOM Symposia are an established series, each providing a valuable discussion forum for nanotechnology in construction. However, this has been achieved only through the initiative and untiring efforts of Prof Z Bittnar, Dean of the Faculty of Civil Engineering and his team (Dr J Nemecek et al.) at the Czech Technical University (CVUT) in Prague, who organised the NICOM 3 and edited the Proceedings.

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