

Review: ACCTA 2016, Dar es Salaam, White Sands Hotel, Tanzania

The International Conference on Advances in Cement and Concrete Technology (ACCTA 2016) was held from January 27th to 29th in Dar es Salaam, Tanzania. The conference was organised by the BAM Federal Institute for Materials Research and Testing in cooperation with the University of Dar es Salaam, the University of the Witwatersrand, and the University of Zagreb.

The conference was opened by Conference Chair Wolfram Schmidt followed by a welcome note in the name of RILEM given by Mark Alexander. The importance of international cooperation in research was emphasised. Mark Alexander introduced into recent activities in RILEM that can help letting researchers from the African continent participate more intensively in international research.

The conference was opened by keynotes given by Karen Scrivener (EPFL, Switzerland) and Jannie van Deventer (Zeobond, Australia) on “Realistic options to meet the challenges of increasing concrete demand in Africa” and “How to prepare the construction industry for alternative binders”, respectively, followed by a panel discussion with Karen Scrivener, Jannie van Deventer and Herbert Pöllmann (University Halle, Germany) in the panel. There was agreement, that more sustainable binders have to be developed and implemented in the concrete market everywhere in the world and that supply chains, applicability and robustness have to be put in the focus. The first day was dedicated to concrete technology and concrete binders, additives and aggregates. Further keynotes were given by Wolfram Schmidt (BAM, Germany) on “Influences of hydration effects on the flow phenomena of concrete with admixtures” and John Makunza (University of Dar es Salaam, Tanzania) on “Low Cost Housing Technology”.

The second day focused on the regulative framework, durability and environmental impacts of concrete technology. Morning keynotes were given by Mark Alexander (University of Cape Town, South Africa) on “Developments in Service Life Prediction for Concrete Structures” and Gerhard Breitschaft (DIBt, Germany) on “Safe Construction Works Made of Reliable Construction Products”. Thereafter, a panel discussion was conducted on topics of Innovation, Standards, Product Safety and Quality Infrastructure. The panellists Violet Omutekete (KEBS, Kenya), Shady Nabil (Housing and Building National Research Center, Egypt), Mark Alexander (University of Cape Town, South Africa), Gerhard Breitschaft (DIBt, Germany) discussed about differences between European demands on construction regulations and the African market demands. There was consensus, that the different market requirements and stakeholders demand for different approaches and therefore the adaption of existing regulations can be more reasonable than the adoption. In the case of Africa it was suggested that due to the high number of stakeholders narrow normative regulations can be an obstacle to the market and that small efficient surveillance units instead of complex administrative institutions can effectively ensure the safety of construction.

The afternoon sessions were split into the topics of environmental impact of concrete technology and structural durability and maintenance of concrete structures. Keynotes were given by Susan Taylor (Queens University Belfast, United Kingdom) on “Basalt FRP pre-stressed FRSCC beams with embedded sensors”, Herbert Pöllmann (University Halle, Germany) on “Possibilities of reuse of South African Ferromanganese and Silicomanganese slags in different cement systems”, and Miruna Florea (Eindhoven Technical University, Netherlands) on “Environmental Interactions of Cement-Based Products”.

The third day started with keynotes on concrete challenges in Africa. Keynotes were given by Pierre-Claude Aïtcin (Université de Sherbrook, Canada) and Kolawole Adisa Olonade (Obafemi Awolowo University, Nigeria) on “Improving the quality of fired clay bricks using rice husks: A Rwandese pilot project” and “Veritable Tools for an Inclusive Regional Development”. Particularly the second keynote raised a high level of attention, since a number of challenges in the education and research in the field of cement and concrete were addressed and potentials for the African continent were noted. The topics of the subsequent sessions were related to the challenging boundary framework in Africa, construction safety, structural concrete and sustainable bio-based materials. Keynote presentations were given by Ivana Banjad Pečur (University of Zagreb, Croatia) on “Fire safety and energy efficiency for high rise buildings”, Liberato Ferrara (Politecnico di Milano, Italy) on “Self-healing cement based materials: 5 years of research experience at Politecnico di Milano”, and Sofiane Amziane (Polytech Clermont-Ferrand, France) on “Overview on Bio-based Building Material Made with Plant Aggregates”.

The conference provided an excellent platform to cross-link African and international experts in the field of cement and concrete technology. Key players from research institutions, industries, associations and policy-making bodies attended the conference to promote their research. The conference also acted as a business platform and to explore opportunities for future collaborations in the African market, and it was a hub for young aspiring researchers to network with experienced scientists and industry representatives. The best presentation of a young researcher was awarded a full sponsorship to attend the upcoming KEYS symposium for young researchers, to be held in Accra Ghana. The price was awarded to Moses Kiliswa from the University of Cape Town for his presentation on “Applying and Understanding of SEM Imaging and Energy Dispersive Spectroscopy Mapping”.

The central themes of the ACCTA 2016 were issues related to sustainable binders and building materials as well as the higher level of complexity of modern construction materials and techniques. This emphasised the urgent need to cross-link experts from all disciplines to find regional solutions for global problems. Therefore the next conference is already in the focus, and soon the venue and framework for the next ACCTA conference will be announced.



Panel discussion on “The Future of Binder Technology” with the panellists Jannie van Deventer (Zeobond, Australia), Herbert Pöllmann (University Halle, Germany), and Karen Scrivener (EPFL, Switzerland).



Mark Alexander (UCT, South Africa) the former president of RILEM welcomes the delegates in the name of RILEM



John Makunza (University of Dar es Salaam, Tanzania) welcomes the delegates in the name of the University of Dar es Salaam.



Wolfram Schmidt (BAM, Germany) welcomes the delegates on behalf of the organising committee.



Nsesheye Susan Msinjili (BAM, Germany) welcomes the delegates on behalf of the organising committee.



The chairman of the panel discussion on "Innovation, Standards, Product Safety and Quality Infrastructure" Reuben Gisore (ARSO, Kenya).



Panel discussion on “Innovation, Standards, Product Safety and Quality Infrastructure”, chaired by Reuben Gisore (ARSO, Kenya). Panelists from left to right were Shady Nabil (Housing and Building National Research Center, Egypt), Violet Omutekete (KEBS, Kenya), Mark Alexander (UCT, South Africa), and Gerhard Breitschaft (DIBt, Germany).



Kolawole Olonade (Obafemi Awolowo University, Nigeria) presenting a keynote talk on inclusive development in Africa.



The ACCTA conference offered space for many discussions.



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Delegates from more than 32 countries attended the conference.



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Wolfram Schmidt (BAM, Germany) concludes on the three day conference and closes the event.