

Editorial

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It gives me immense pleasure to write the editorial for this issue of *Proceedings of the Institution of Civil Engineers – Construction Materials* (COMA). This themed issue celebrates research from the Middle East and North Africa (MENA) region. There have been many papers published in COMA authored by researchers based in the MENA region. This issue comprises four research papers: two papers on concrete and two on bituminous/asphalt mixtures. Papers include the use of recycled materials, nanomaterials, alkali-activated materials and local materials in construction applications, thereby contributing to the circular economy and sustainable environment.

The first paper, from Tunisia and authored by Grine *et al.* (2021), is concerned with design and prediction of performance of ready-mix concrete. The research consists of an extensive laboratory investigation comprising 81 concrete mixes. Testing included the slump test at different times and the 28 days compressive strength test. Artificial neural networks (ANN) were used to predict the concrete performance based on the collected experimental data. The concrete mix constituents were also used. The authors suggest that ANN can be used by ready-mix concrete producers to predict concrete performance, thus reducing the number of tests required and ultimately saving money.

The effect of bonding agents on strength loss of successive casting of self-compacting concrete (SCC) is the subject of the second paper, authored by Assaad and Daou (2021) from Lebanon. SCC slabs were cast in two layers. The time interval between the two layers was either 60 or 120 min and different bonding agents were used. The polymer-based bonding agent was found to produce a better bond between the two slab layers. Additionally, the authors present the drop in bond strength as a series of charts to aid practising engineers when there is interruption in casting of SCC.

The third paper, authored by Vamegh and Ameri (2021) from Iran, is on the rutting performance of polymer-modified asphalt binders. Two types of established polymers were used in the asphalt mixtures. The bituminous mixtures were subjected to high temperature and the deformation was assessed by conducting the dynamic shear rheometer and multiple stress creep recovery tests. The rutting resistance of bituminous mixtures was found to improve in the presence of the polymer.

The fourth and final paper of this issue is on the use of recycled (reclaimed) asphalt, dune sand and lime in a porous asphalt mixture, authored by Siala *et al.* (2021) from Tunisia. The paper is related to sustainable development since it involves the use of recycled and local materials. The experimental data obtained suggest that the mechanical properties of asphalt mixtures can be enhanced using 40% reclaimed asphalt, 10% dune sand and 1% lime.

As stated earlier, and in addition to the above four papers, there are more papers that have been published online ahead of print in COMA that are related to the theme of this issue. They include one paper on alkali-activated materials as full cement replacement in concrete, authored by researchers from Saudi Arabia and Egypt (Rashad *et al.*, 2020), and another paper from Iran on mechanical properties of soil reinforced with polypropylene fibre (Hojjati and Sarkar, 2019). There are two more papers from Iran on the effect of inorganic nanoparticles (nano silica) (Gholampour *et al.*, 2020) and polymer additives (styrene butadiene styrene and Lucobite) (Vamegh *et al.*, 2020) on the performance of bituminous mixtures.

In order to celebrate and encourage research from the MENA region, COMA has published and will continue to publish many papers authored by researchers from the MENA region, including countries such as Tunisia, Egypt, Lebanon, Saudi Arabia and Iran. The papers in this issue and others published in COMA by researchers based in the MENA region will be of interest to practitioners, materials developers and researchers in the field of concrete and bitumen, especially those residing in the MENA region as some of the materials used in the research are obtained locally. In addition, the wider construction materials community will benefit from these papers. I do hope that the journal will move from strength to strength.

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