

Remaking Mecca

Saudi Arabian authorities have been improving walking routes in Mecca to accommodate more pilgrims and reduce risks of stampedes. Professor Serge Hoogendoorn, TU Delft's expert on traffic flows and crowd management (CEG), was asked to advise on design solutions for the mosque in terms of increasing pedestrian capacity, together with his colleague Professor Hani Mahmassani from the Northwestern University Transportation Centre (US). "Based on my empirical knowledge of pedestrian flows, I could almost calculate the capacities of different design solutions on the back of an envelope." Mahmassani's group has made computer models and run simulations of the pilgrim flows inside the mosque. The funny thing was: both approaches yielded similar outcomes, and hence consistent advice could be given to the Saudi authorities.

Further information:

www.delta.tudelft.nl/23448



Fuel cell lab opened



Together with the existing theory group at process & energy, the newly opened fuel cell lab forms an integrated research centre on a European level. The objects of study here are solid oxide fuel cells (SOFCs: tile-like devices that transform gas directly into electricity. Assistant professor, Dr P.V. Aravind is glad the TU has taken over the equipment from ECN, the national energy research centre, which last year was forced to limit its activities as a consequence of budget cuts. Aravind says the acquired equipment nicely complements the activities of the group's theorists in thermodynamics, electrochemistry and computational fluid dynamics. The new lab enables them to work in 'an integrated manner' on both computations and experiments. "Not many universities have this combination," Aravind says.

Further information: bit.ly/sofc-lab

www.delta.tudelft.nl/23402

Microwave toilet

TU Delft researchers have received a grant worth approximately 500,000 euros from the Bill & Melinda Gates Foundation to develop a new kind of toilet that does not require water nor a sewage system. Using microwaves and a process called 'plasma gasification', the toilet will turn human faecal waste into a synthetic gas. This gas will in turn be used to produce electricity.

Further information:

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www.delta.tudelft.nl/23566

Merger

TU Delft wants to work together more closely with Leiden University and Erasmus University Rotterdam. These three universities believe there are five areas of research in which multidisciplinary crossovers are possible: health, sustainable environment, law and governance, globalising economy and society, and network society. If the universities of Leiden, Rotterdam and Delft will ultimately merge remains unclear. Until May, that is.

Prior to then, everyone in the joint academic communities can influence the process, said Dirk Jan van den Berg, Chairman of TU Delft's Executive Board, during the opening of the academic year on September 5. His words made it clear that he doesn't like all the speculation in the press and on social media sites about the planned merger of the three universities. Van den Berg believes it is much more productive to discuss the 'substantive aspects'.

New challenges for Nuna

New solar cell regulations have turned the World Solar Challenge into a whole new ball game. This year teams are only allowed to carry 3 square meters of very efficient gallium arsenide solar cell panels on their car instead of the 6 square meters in previous years. It's either this, or they can fall back on the less efficient panels made of mono crystalline silicon of which 6 square meters are still allowed. This rule is meant to create a more equal playing field. The Delft team has decided to use mono crystalline silicon this year. Four times in a row the Delft students have won the race through the Australian desert which is held every other year in October. In 2009, Nuna was dethroned by a team from the Japanese University of Tokai, coming in second.

Further information:

www.delta.tudelft.nl/23451

