

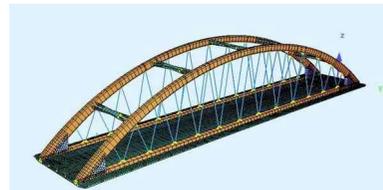
	The South African Institution of Civil Engineering Western Cape Branch
NEWSLETTER No 4/2017	November/December 2017

- > Not entered by JG Afrika Cape Town, but a project presented at our Branch meeting of 21 September 2016: Diversion of solid waste away from landfills in six Municipalities in South Africa won Richard Emery's team the Environmental Engineering Project of the Year and the Most Outstanding Civil Engineering Project for Environmental Engineering.

BRANCH BUZZZZING: events you may have missed–

20 September **and** Abe Newmark and Heinrich van Wijk of AECOM told the 60-strong audience at the Athenaeum what was being done to replace the bridge over the Cogmanskloof River in Ashton. The single lane Montagu Bridge of the 1930's had been "boxed in" by a new bridge that converted it to two-lane width, but the 50° skew and presence of the piers in the waterway had contributed to flooding in the town at various stages. A tied arch – adjudged the best overall of several options that were considered – will now span the full width of the channel and take care of the flooding problem.

The new bridge, which will consist of a post-tensioned concrete beam and slab deck hung from reinforced concrete arches and wish-bones by steel ties, is being constructed alongside the existing bridge. Traffic will be temporarily diverted over this when complete, the existing bridge demolished and abutments built and then the bridge will



be slid sideways into position. Many thanks to the speakers, and to AECOM for sponsoring the event.

Sadly, on 25th October, universally liked SAICE Fellow Clyde Barnes, formerly of Cape Provincial Roads, passed away. Our sympathy to his family.

FOR YOUR DIARY

- January 24:** Beginning of Year Cocktail: Granger Bay Hotel School. Speaker: TBC
- February 21:** Fuel Storage Facility, Port of Cape Town / Paarl Bulk Sewer: Venue TBC
- March 7:** Presidential Address, Venue TBC
- March 14:** TBC
- April 18:** Wall 3, Versveld Pass / Landslip, Mossel Bay
- May 16:** Regional Awards Presentations

MESSAGE FROM THE CHAIRMAN

Thanks again, to Marianne Vanderschuren and her team for all her hard work and organisation in making the **Annual Branch Dinner on 3 October** a successful event, enjoyed by all who attended at Kelvin Grove. MC Kieno Kammies and speaker Andre Du Toit (the Big Positive Guy) made a good combination and the latter showed us some striking graphs demonstrating that SA is not all doom and gloom.

Thanks once again to SMEC for sponsoring the latter.

Steve Fanner got so excited about the **Annual Branch 2016 Regional Project Awards** and how close the competition had been that he quite forgot to announce who had won and who was collecting the award plaques, so here it is:

- > Winners with 80,1%: New Horizons Energy with Consulting Engineers JG Afrika with the New Horizons Energy (Biofuel, etc.) Project;
- > Second with 79% was another JG Afrika project: Residential Property, Kloof Road Clifton;
- > Third on 78% was the City of Cape Town's Implementation of Electrolytic Chlorination at Selected CoCT Reservoir sites, with in-house project design.

Congratulations! And congratulations also:

In SAICE National Awards (Durban, Friday 20th October):

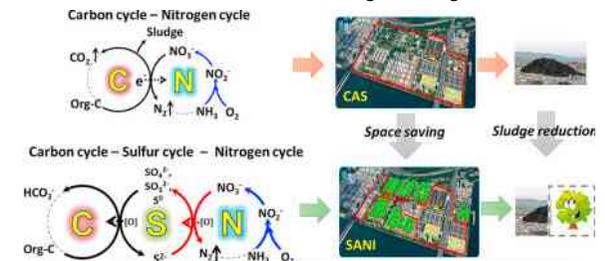
- > Young Engineer of the Year: Winner: Pierre van der Spuy (former Branch committee member);
- > Young Engineer of the Year: Commended: Catherine Biersch (the Branch nominee);
- > JG Afrika's Kloof Road Clifton project was Highly Commended in the Technical Excellence Category for Most Outstanding Civil Engineering Project, 2017 and was the Most Outstanding Civil Engineering Project for Geotechnical Engineering;

18 October: Prof George Ekama delivered the Snape Memorial Lecture, his subject *Some*

Opportunities and Challenges for Urban Wastewater Treatment – separation of urine at source and sea water toilet flushing. Prof Ekama, the recipient of the Order of Mapungubwe in 2013, stressed the need for improved recovery from sewerage, not



only the "fresh" water (cheaper than desalination; on the other hand, why is there so much pressure to install fibre and yet no desire to spend on water?) but also, for example, phosphates, world sources of which will have been mined out by 2050. Clean up is no longer just a matter of health, but of avoidance of the build up of concentrations of chemicals, some of which could damage the infrastructure on their way to treatment, whilst oestrogen and endocrine disruptors are upsetting the balance of nature – trout upstream of treated discharge are evenly divided between male and female, downstream of it, exclusively female. And the reason for separating urine from the rest at source?: urine makes up 1% of the total volume but in that 1% are found 70% of the N and 50% of the P (couldn't resist it). Dealing with the urine separately means halving the effort one has to put into treatment. Prof Ekama mentioned the SANI (Sulphate reduction autotrophic denitrification) process – that is it below, with the middle "S" ring making the difference –



and the Rhodes BioSURE® (Biological Sulphate Reduction) process which leaves 1/3 of the salt to be dealt with, making desalination easier. There are also possibilities with acid mine drainage, where privatising gains and socialising losses is the order of the day.

AGM on 15 November 2017– Chairman Andrew Clothier's report was to the point and smoothly delivered, as were the reports from Hon. Treasurer Byron Mawer and UCT Student Chapter chair, Rebekah Frieslaar. The financial statements did not cover the full year. Although outstanding amounts when received would yield a less gloomy picture, the expenditure on some items, in particular the annual dinner, raised concerns. Even if sponsorship of students could be obtained, shrinking reserves were likely and Tony Murray thought the annual dinner might need to be cancelled. It was also unlikely that a SPEBS contribution could be made, although this would be considered by the incoming committee.

Nominations for election to the committee were unopposed: Emmanuel Akampurira is the Chairman, Alice Chang the Vice Chairman and new members welcomed onto the committee are Bobby Jarratt, Catherine Blersch, Fulvio Busatta and Daniel Reinecke. Tony Murray resigned from the committee again, and was thanked for his sterling services over many years. A pity, but Kate Murphy is also leaving again. Our grateful thanks to Andrew for his leadership over the past two years.

And after the AGM Mike Killick from Aurecon spoke on the subject of desalination options for utilities in South Africa. Mike has had a varied career in water engineering and water master planning in both the public and private sectors. He summarised the findings of two recent feasibility studies undertaken for Umgeni Water and Nelson Mandela Bay Municipality respectively for the provision of large scale desalination facilities (150Ml/d). The presentation also provided reference to international experience in the provision of desalination in North America, Australia and the Middle East, the relative costs of the technology and how a relatively expensive treatment technology can form an integral part of the water supply strategy for utilities.

Mike then provided some context into the current water shortage in the Western Cape pointing out that the DWS and the City of Cape Town water supply strategy was geared to, and adequate for a 98% assurance, while the combination of the last three low rainfall winters constituted a drought with a 1 in 400 year probability. The City WC/WDM strategy diligently implemented over the last 20-years resulted in little increase in demand despite an almost doubling of the City population, however it resulted in little opportunity for further savings when the extent of the drought was realised.

Catherine Blersch, also from Aurecon, rounded off the presentation with a summary of her masters research into the integration of desalination into the Western Cape Water Supply System in order to optimise system operating rules and costs.

[Editor: R15/kilolitre doesn't sound too bad does it? Not if you are already paying R17,75/kilolitre if you use more than 6 kilolitre per month it doesn't. No large scale desal will be built in the short term so for this summer at least, it will mean muddling through.]

NEWSLETTERS: Please let Cheryl know so we can cancel surface mailing to you if you are able to receive your newsletter by email: cheryl.wright@uct.ac.za.

WE ARE LISTENING... If you have any comments regarding Branch activities, please email us (ClothierA@jgafrika.com) or post on our website <http://www.saicewc.co.za>.

ARE YOU CONNECTED.....? We regularly send out email messages to members via E-flash. If you would like to be on the E-flash list, send an email with the heading "SAICE E-flash" to marianne.vanderschuren@uct.ac.za or fill out the Contact Page on the Branch Website <http://www.saicewc.co.za>.

Please tell us about changes in email / other addresses. Official records are kept at National Office, so any changes in your personal details should also be sent to the National Office: SAICE National Office, P/Bag X200, Halfway House 1685.

Steve Fanner
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