

Report on Gauteng Members' group EWB-SA evening

To kick off the year's proceedings, the Gauteng members' group opened on a high note by showcasing the exciting organisation, Engineers Without Borders SA (EWB-SA), and giving members a chance to find out more it.

David Ming, director of EWB-SA, started off the evening held at Worley Parsons, Melrose Arch, by explaining to members exactly what EWB-SA is and what it aims to address in South African society.

Ming told the attendees that the EWB-SA group aims to facilitate the transfer of engineering skill sets and convert this into far-reaching benefits for local communities using a project-based approach to implement, install and educate those areas in need of these critical skills.

Hundreds of projects have been started around the country, each with their own set of unique challenges to understand and solve. The group started in 2008 at the University of Cape Town and there are now nine student chapters, mainly based at universities and technikons, and a member base of over 1 500, established in the space of eight years.

While getting projects off the ground and running, a key focus of the group is the educational value and the approach to unlocking this. Human-centred design and rapid prototyping are commonly used methods for unlocking potential of members and their teams in order to achieve project objectives at a fast pace. EWB-SA student members get exposure to valuable project management sessions by being a part of the group, which equips them with the tools to get ahead.

EWB-SA allows its members the chance to go back into their communities and use their knowledge to help build up and educate those who may be involved with or affected by the projects. While the emphasis is on building infrastructure in their communities, another valuable output from these projects is the research papers written on the outcomes.

As an engineering professional currently working in industry, a way of contributing to EWB-SA is by joining the technical advisory board at your local university chapter.

Ming said that, living as we do in the city for the most part, we often focus only on urban problems, tending to forget about the challenges that face a large majority of our population. "Having an understanding of the complexities involved with the everyday lives of South Africans



David Ming, director of EWB-SA, addresses the gathering of some of the Gauteng members' group.



Baraka Sempuga sheds light on some of EWB-SA's projects.

and the nature thereof are at the very heart of getting ahead of these projects," he noted.

One of the projects completed by EWB-SA's university chapter EWB-NMMU, along with Alliance Française de Port Elizabeth Werk, included the Green Day Care Centre in the Joe Slovo Township on the outskirts of Port Elizabeth, South Africa, which was featured in 'ArchDaily' (www.archdaily.com/775901/social-development-project-indalo-plus-collectif-saga) for its innovative approach to using green materials (such as used bottles) for building blocks.

Baraka Celestin Sempuga went into more detail by talking through the Green Day Care Centre project in more detail and shedding some light on the various other projects being done by EWB-Unisa.

Some of the key projects include bio-digesters, which supply energy to supplement and/or supply power to homes. Additionally, a partnership with a local community who could sell/buy the products made, undertook soap-making, incorporating extraction techniques

on essential oils used for their aromas.

While biogas is not new technology, there are always challenges to overcome, the most important being overcoming social perceptions related to the use of manure or sewage for an everyday activity such as powering the home and other household-related activities.

"We heard the story of Joseph who installed bio-digesters on his farm, and these have been running for three or four years. He uses the energy derived from the digesters to cook, heat up water and watch television. He is also able to use the manure on his farm, since processing of the manure helps break down and release nutrients into the soils, which is more beneficial than using fresh manure," said Sempuga.

With an emphasis on conversion and gas projects there has been a strong representation of chemical engineers on these projects, however, there are many other opportunities available for all other engineering disciplines to get more involved, noted Dr Sempuga.

How can you help?

If you are a professional engineer, you can contribute on a technical level by joining one of the technical advisory boards in Gauteng, the Western Cape, or KZN. Members can also help by volunteering their time on an organisational level by helping to run EWB-SA.

EWB: a movement in the making

In 2008, Denis Wong and Brennan Hodkinson conceptualised the first official EWB chapter in South Africa. However the two-year journey, from 2008 to 2010, from conception to establishment, was not an easy one. It involved careful planning, regular meetings with university officials and frequent visits with potential sponsors. Wong and Hodkinson were aided in their endeavours by an enthusiastic UCT engineering professor, Duncan Fraser.

The initial intention was to set up a national chapter, such as the current EWB-SA, however, despite numerous efforts, this ambition had to be put on hold for a time and a more modest and reasonable beginning was settled for. Hence the EWB movement in South Africa began as a student chapter. Wong and Hodkinson began to gather the support of a small group of students within the university's engineering faculty as they focused on launching EWB-UCT as a university society. So it came to be that, in 2010, Wong and Hodkinson, officially founded EWB-UCT, which was headed by Hodkinson.

The second chapter was established in 2010 at the University of the Witwatersrand, EWB-Wits. David Ming called Duncan Fraser to find out if there was a student chapter in



The Green wall of the Day Care Centre in the Joe Slovo Township on the outskirts of Port Elizabeth, South Africa. With, on average, the same budget as an RDP house the centre was built with mostly recycled materials, which were free or of low cost, and using efficient building techniques. Photo © Joubert Loots.

The organisation is always looking for people to help with social media, administration and training programmes such as the HCD course and project management. Assistance is also needed for hosting events.

If you are a university student, the easiest way to get involved is by contacting one of the university chapters closest to you or by contacting EWB-SA directly.

Companies interested in working with EWB SA or discussing how best to work together can contact the CEO, Jason Huang, at jason.huang@ewbsa.org and copy in

info@ewbsa.org. EWB SA is constantly looking to expand its presence and it's not always about money. www.ewbsa.org

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