



*The Engineering Professions Association
Of Namibia*

YOUNG ENGINEERS' CONSTRUCTION PROJECT

EPA Young Engineers' Construction Project 2009
Bridge Building

The Bridge Building Competition is an annual event hosted by the EPA to promote engineering as a career. Senior Secondary schools throughout Namibia offering Mathematics and Physical Science are invited to partake in the Bridge Building Competition. This year's event was held on Friday, 3 July 2009, at the Engineering Faculty of the Polytechnic of Namibia, as the culmination of the Science, Technology & Engineering Week of the Ministry of Education's Directorate of Research, Science and Technology.

Nearly 130 Grade 11 and 12 school learners from across the country competed. Stiff competition and mounting excitement between the teams was clearly visible throughout the day when the learners had to construct a bridge within only six hours from nothing more than dowel sticks, glue and string, and using only a hacksaw and a cutter as tools. They had to follow strict specifications on important dimensions such as weight, length and height of the bridge. A panel of judges evaluated the bridges on workmanship and ingenuity, before the bridges were put to a load-carrying test to determine how much load each can carry before breaking.

This year's winning bridge weighed a mere 165 grams, but succeeded in carrying a load of just more than 200 kg – quite an achievement, according to one of the judges, Mr Hermann Hess, a well known retired engineer who built more than hundred bridges during his career.

The winning team consisted of Stefan Marggraff, Marco Goike and Norbert Meyer of the Deutsche Höhere Privatschule in Windhoek. The team from St. Paul's College in Windhoek took the second place and the team from Walvis Bay Private School walked away with the third prize.

Namibia's future engineers are learning hard and valuable lessons, but are improving every year, said Mr Braam Cilliers, the president of the EPA. "Many of the teams did a lot of homework beforehand, probably using the internet to learn about the challenges of bridge building, and it certainly paid off."

Another judge, Mr Günter Leicher, pointed out that there was as a clear distinction between the teams who were well prepared and those who were not. "The teams who planned and tested their designs beforehand stood out – they knew what they were building and did it with purpose." He also agreed that this year's competition was marked by a wide variety of interesting designs. "Many teams were very innovative and creative."

Mr Antonius Apata, laboratory manager in the Electrical Engineering Department of the Polytechnic of Namibia, who was also a judge, indicated that more teams were disqualified this year because they did not follow the specifications that were set as part of the competition rules.

"At their (Grade 11 and 12) level we would expect them to spend more time to ensure that the measurements as specified beforehand, are strictly adhered to. Specifications of any engineering project such as a bridge or a road are very specific and one cannot compromise on that. Some teams came up with very good designs, but were disqualified because they did not adhere to the specifications. It is like sewing a suit that looks good, but is too big or too small for the person who ordered it."

The first three teams received cash money for each team member and a cheque for their school. A floating trophy accompanied N\$750 cash per team and school as the first prize, while cash prizes of N\$600 and N\$450 are respectively given as the second and third prizes.

The EPA congratulates all participants in the competition for their enthusiasm and camaraderie, but in particular the winning teams and their respective schools. A special word of thanks is expressed towards Mr. Jürgen Leicher for a brief lecture on model bridges at the outset of the competition, and to the judges, Mr. Hermann Hess, Mr Günter Leicher and Mr Antonius Apata, as well as the Polytechnic and staff for the venue and assistance rendered.

Generous sponsorships for the competition were received from BKS through SAICE (South Africa), V K E (Namibia), Inc. Consulting Engineers, Lund Consulting Engineers, Pro-Services, Element Consulting Engineers, PPS Namibia and JS Hardware & Hobby, whose contributions made this competition possible.



Pictured is the winning team of Stefan Marggraff, Marco Goike and Norbert Meyer (standing in front). At the back is Mr Braam Cilliers, EPA president, Mr Günter Leicher and Mr Hermann Hess, EPA members and judges of this year's competition, and Mr Carsten Antoni, head of the physical science department at DHPS.