

UP Architecture students are reaping in rewards

Students of the University of Pretoria's Department of Architecture in the School for the Built Environment have been dominating some of the largest local and international architecture competitions in recent years. In the past two years, UP students won the Archiprix International Hunter Douglas Award, the Saint Gobain DesignHub Respond/Renew/Revitalise Student Architecture Award, the International Holcim Sustainable Construction Award, the Corobrick National Architecture Student of the Year Award, as well as the Fuchs Design Award. Winning students, as well as judges in these competitions, generally attribute this success to the Department's holistic approach in their teaching. *Innovate* features the two latest winners, Cliff Gouws and Calayde Davey.



Holcim Next Generation Gold Award

Calayde Davey, who until recently worked for a Malaysian architectural firm, Veritas, in Kuala Lumpur, was announced the gold winner of the prestigious biannual Regional Holcim Next Generation Awards in the Africa Middle East category late in 2011 for her 2010 MArch(Prof) thesis entitled *Proximity, vertical agriculture at the Old Pretoria-West Power Station*.

She was also one of about 20 South African students to win the prestigious annual Fullbright Scholarship, an American award for applicants engaged in postgraduate studies in all academic fields. This afforded her the opportunity to enrol for a PhD in Architecture and Environmental Design at Kansas State University, where she will soon commence with her studies.

Davey designed an architectural model to facilitate a programme of vertical hydroponic agriculture, or a 'vertical farm', on the existing industrial heritage site of the Old Pretoria-West Power Station. The adjudicators of the Holcim Awards commended her project for its visionary idea and impact that appears both feasible and constructible.

She designed a seven-storey, indoor food-growing building that is constructed entirely from contemporary and experimental building materials in the form of structural bamboo, structural steel and bamboo-reinforced concrete. The design provides for a vertical hydroponic food factory, an urban market and an agriculture park as part of the entire urban agriculture concept. The project aims to be sustainable and resource-efficient and aspires to become a model for urban reform through urban agriculture across the city of Pretoria.

Her design is totally ecological in terms of energy use, material and by-products, recycling and the local sourcing of building materials. The vertical farm caters for resource-efficient energy renewal by means of biogas production and rainwater harvesting, and produces a variety of products beyond food, such as composting, clean water and gas.

Furthermore, her vertical farm employs over 300 people and aims not only to be a prototypical development for new local economic incentives through vertical and urban agriculture, but also aims to prove the value of urban and vertical agriculture to reform urban environments in Africa.

"By creating an architectural model for vertical urban agriculture, my design aims to replace the redundancy and alienating impact of outdated 20th century industrial technology with a new, productive urban building and productive urban landscape. My project essentially aims to address the pressing issues of de-industrialisation, the adaptive re-use of industrial heritage, localised food production strategies through urban agriculture, and also promotes true resource-efficient architectural design by exploring the use of new building materials."

Davey praised the UP Department of Architecture for the creative freedom it offered her as a student. "The Department allowed me to play with ideas that run beyond the physical built environment and connect concepts that are of interest to me. I was encouraged to run with these ideas and do the complete project development. This is a very stimulating approach and the methodology is solid for not only the project, but also for building a professional career."





Corobrik National Architecture Student of the Year

With his MArch(Prof) dissertation entitled *Magazine Hill: A weathered continuum*, Cliff Gouws won the Corobrik National Architecture Student of the Year award for studies completed in 2011, as well as an international electronic thesis and dissertation competition. The Corobrik Awards is an annual national competition that honours the top architecture student dissertation in the country.

His thesis was recently also shortlisted as a finalist (out of 500 entries from students and professional architects) for an international competition, [Un]restricted Access, which deals with the reclamation of abandoned military sites around the world. This competition is judged by famous international architects Renzo Piano and Tom Kundig.

In his thesis, Gouws proposed the recreation of Magazine Hill, situated close to the Pretoria Central Prison, in such a way that the history of the area is communicated without changing its character.

Structures were built on Magazine Hill in 1890 where ammunition was produced until years after the Second World War. Ammunition magazines, five bomb shelters and ammunition factories can be found on this mysterious, abandoned and isolated site. These are all structures that represent an era of unrest in South Africa. In 1945, a mysterious explosion of the central magazine scarred the face of Magazine Hill, putting an end to the activities on the site, and trapping architecture in time and abandonment.

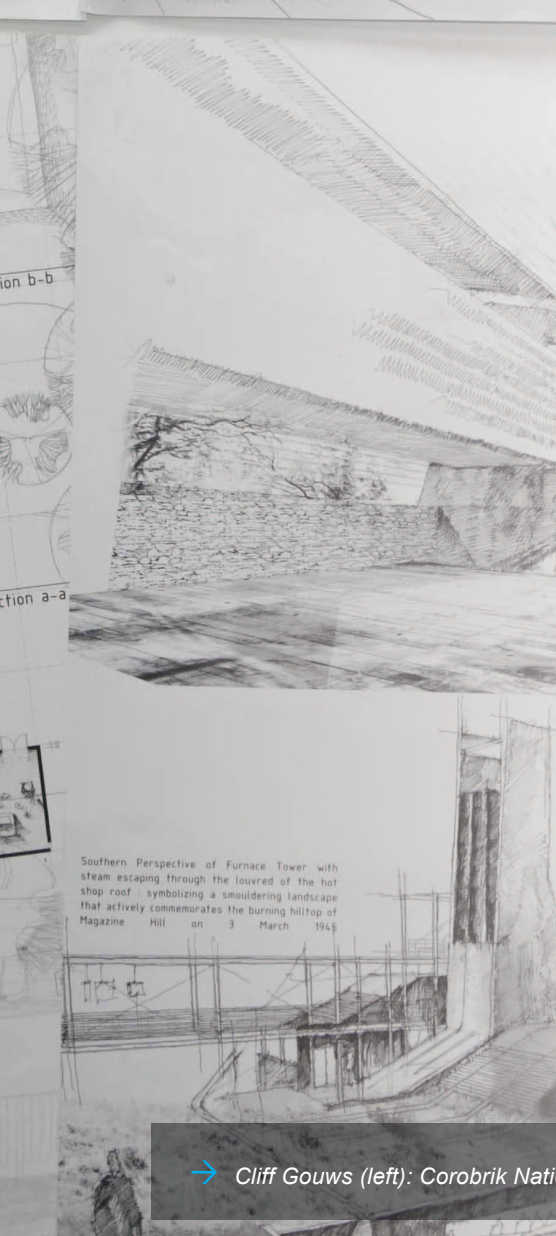
Gouws proposed building a brass foundry on site to recycle the spent ammunition shells of the South African National Defence Force (SANDF), and getting brass artists to use this melted brass to create works of art that can be placed on Magazine Hill. "Where ammunition was once produced, ammunition is now reduced. This design could form mediation between the public and the military, exposing different layers of the past by reinstating a connection between architecture and time," says Gouws.

Through this use of commemorative architecture, Gouws designed a space that celebrates history and heritage in a way that is far removed from the traditional way in the form of static museums and monuments.

Gouws says his interest in heritage architecture was the inspiration behind his design. "I've always had an interest in heritage architecture and I feel that there is still a lot of room for improvement in this type of architecture. A large part of our heritage is being lost, therefore it is of critical importance that we find ways to protect it."

The adjudicators in the Corobrik competition praised Gouws for the way in which he managed to reconcile different phases of time and how he re-established a connection between the continuum of time and architecture. They noted how his project highlights imagination and intelligent, yet subtle design, while also being economically, socially and environmentally sustainable.

Gouws, who now works at Holm Jordaan Architects in Pretoria, attributes his success to the quality of the Architecture programme at the University, and the excellent lecturers who guided him through his studies. ➔



➔ Cliff Gouws (left): Corobrik National Architecture Student of the Year.