

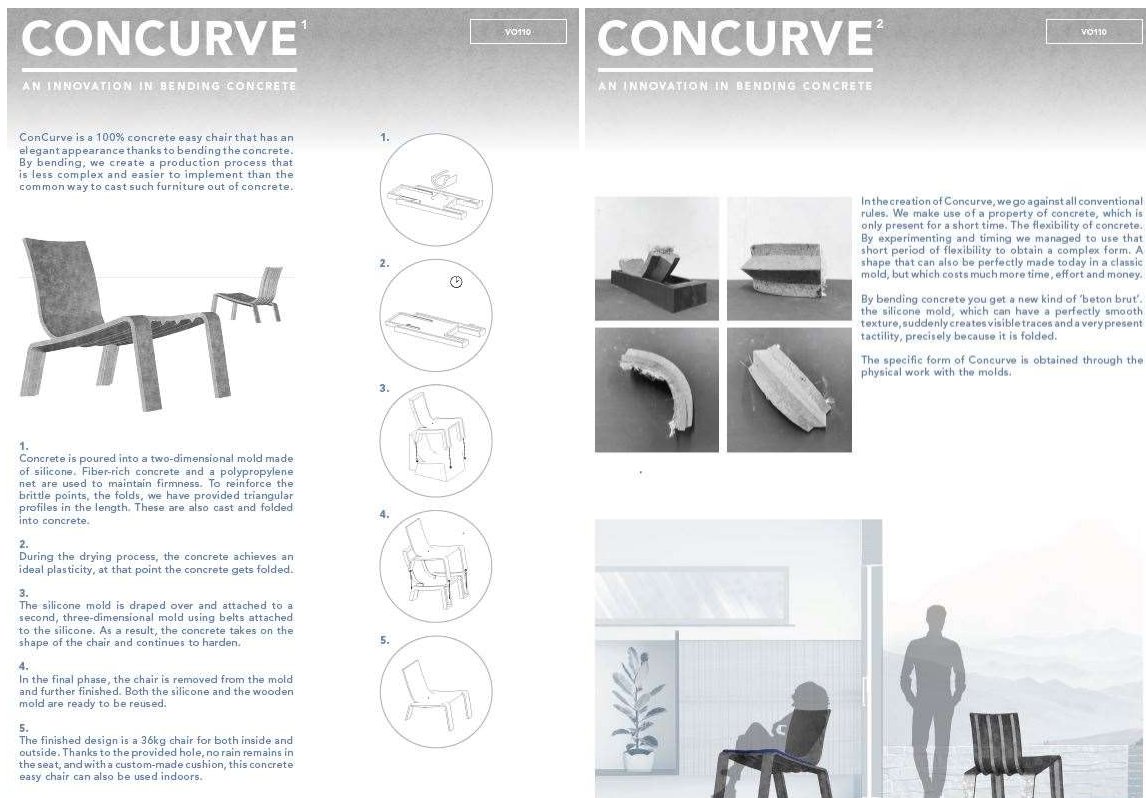
Concrete Design Competition – CDC 9 – jury report – dd. 29th of June

The jury gathered on Tuesday 29th of June at the offices of Mouton and online for the evaluation of the 12 entries for the ninth cycle of the Concrete Design Competition, representing 25 students from 6 different architecture schools in Belgium.

The jury was pleasantly surprised with the quality of the projects. They awarded the first two prizes to projects that really focus on formworks including a novel approach to the production process.

First Prize: **Concurve** Wouter Persyn – Ine Verhaege – Dries Voet
Thomas More Mechelen

The jury appreciates how the formwork was conceived, making use of the flexibility of the concrete in the plastic phase. The concrete can be poured into a flat mould and will be bent once the binding of the concrete has made the concrete more viscous. The jury also acknowledges the fibre reinforced test model. It is a beautiful research project, exploring alternatives for expensive casts, thus integrating the economical aspect. Further research could be done on the optimal angle of the legs of the chair and whether the bending of the concrete during the plastic phase has an impact on the durability of the concrete itself. The prototype could also lead to other applications, so that this system is not limited to this chair.



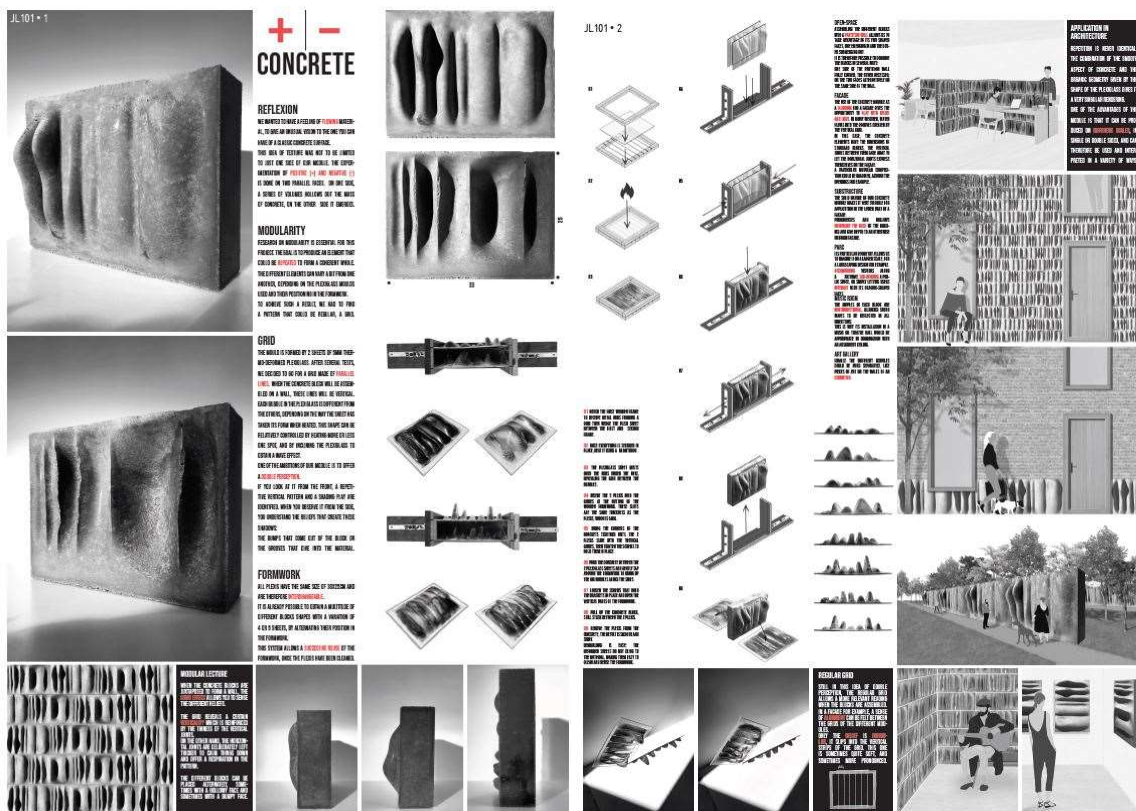
Second Prize:

+/- concrete

Joffrey Leseur – Lucile Robert

ULiège

The jury was charmed by the possibilities of the formwork that can lead to interesting textures on two sides of the cast elements. It provides numerous options for small as well as large dimensions. It is strongly reminiscent of textile formwork. Even though the technique might not be entirely original, it is interesting to see how both sides can be used, especially the freestanding option is interesting as it reveals both sides. The reusability of the cast is also an advantage, as no demoulding oil is needed. It would be a challenge to use it on a larger scale, which could be an interesting starting point for a research project.



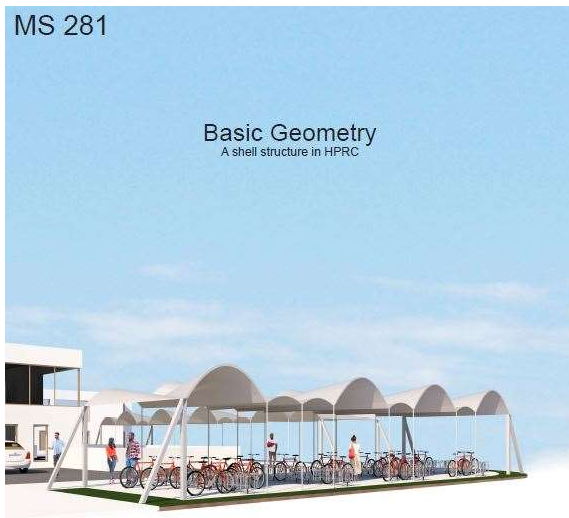
Third Prize:

Basic Geometry

Mirthe Schots

UHasselt

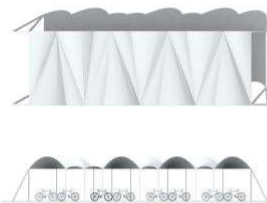
The jury appreciates the concept of the design, but the project still needs a lot of fine tuning especially about how the resulting forces would be dealt with. The advantages of the material are well used, such as the waterproofing and the lightness during transport. There are still some questions about how the precast elements would be connected and how the columns would be executed. It is a very promising project, architecturally conceived but it needs to be further developed.



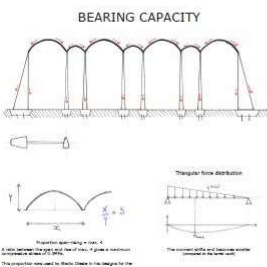
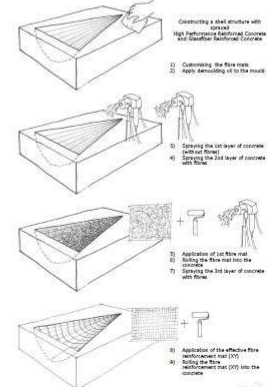
My design is the result of a design research into the implementation of a very thin concrete shell structure in High Performance Fiber Reinforced Concrete. The structure will function as a bicycle shed for the company Ebema, a supplier of building materials in Zutendaal.

High-pressure concrete is mainly used to take the pressure, the tensile forces and bending stresses are therefore limited as much as possible. The result of my design research showed that a half-cone structure is more stable and shows less deformation than the barrel vault. This is because the half cone is built up from a triangular base, which has more stability and retains its shape much better than a quadrangular base. The result consists of a deuplicated structure of concrete shell elements that rest on a column structure. The shell elements are created as two half-cone-shaped elements with a diggerent width and height, that can be connected to each other. Hereby two rhythms were created, that can be shifted by one ba into a poetic architecture. In addition, each shell element contains an arch at one end that ensures that the structure is loaded as much as possible with compressive forces. The forces on the structure are evenly transferred through the arch form to the underlying columns that support the structure.

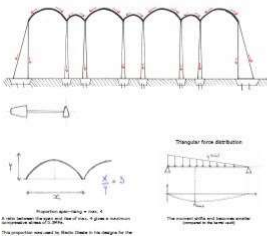
1/2



WORKING METHOD



BEARING CAPACITY



2/2

Honourable mention: **Discrete**

Eva Baplu – Manon De Backer – Thomas De Jonckheer

Thomas More Mechelen

Beautiful furniture, where the rigidity is ensured by the form itself. The jury wonders how it can be executed, maybe a mould and a counter-mould are needed. If it were to be used outside, since it seems that it could be used as maybe street furniture, the question arises if the proposed execution wouldn't compromise the durability and appearance, because of possible dirt.



Honourable mention: **Kinky**

Wannes Cools – Leander Decloedt – Nicolas Guilbert

UGent

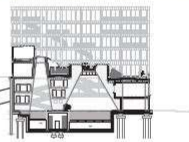
The jury appreciates how concrete was used to create a certain spatiality and how the material interplays with the light that brushes over the concrete. It's a game of space, material and light. The cross sections beautifully render the qualities of the project, even though the jury would have loved to have seen more about the project, which some additional floor plans could have provided.

KM225



Kinky

A wellness and swimming pool complex is situated in between a residential tower and office building. A rhythm of concrete slabs gives the spaces a certain grandeur, reminiscent of ancient Roman thermal baths. At the same time, these structural elements offer a bearing capacity that allows the incorporation of an urban roof garden on top. Daylight enters from above and is diffusely distributed through the concrete roof surfaces in both the main and side aisle of the swimming pool. Descending into the pool becomes a true experience and occurs in the negative space between the concrete slabs. This space widens towards the depth, so that the pool reveals itself slowly. Bathing becomes a sacred experience of light, structure and space.



The project 'Kinky' was part of a master's design studio at Ghent University. The assignment lies in a context of qualitative densification for a city like Brussels, with a diverse set of programs (residential, work, recreation...) stacked on top of each other. For the design studio, a preliminary design has been realised, including a thorough start assessment of structural properties, HVAC installations and construction details.



About the Belgian Jury:

Guy Mouton

Mouton

jury Chair

Guy Mouton is a structural engineer. The quintessence in his work is to pursue an optimal synergy between structure and architecture to ultimately state that structure is architecture. His structural concepts go beyond structural efficiency, they reinforce the architectural concept. Moreover, they sometimes challenge it! The spread position between structure and architecture, required of the engineer, is what fascinates Guy.

Guy Mouton graduated as a civil engineer architect at the University of Ghent where he was assistant for 10 years. From 1994 to 2015 he was professor structural studies at the Faculty of Architecture of the Catholic University of Leuven campus Ghent and Brussels. He founded his own practice in 1978, which later became Studieburo Mouton and from which Mouton was founded in 2015. Mouton is directed by Lieven Tone Houdmont.

Olivier Gallez

NEY+Partners / UCL

As structural engineer Olivier is engaged in projects aiming at overcoming barriers between all fields involved in the construction process, enabling a holistic approach in his civil engineering consultancy practice and in his academic activities. His design approach of special structures is based on the understanding of materials' properties and on the research of an efficient geometry.

Olivier graduated in Civil Engineer Architect at the UCL Louvain [BE] and obtained a master's degree in Urban Design from the UPC Barcelona [ES]. Before joining the structural engineering office NEY+Partners, where he became one of the Partners, he collaborated for some years with architectural offices including RCR Arquitectes and Beth Galí. Since 2013, he is guest lecturer at the UCL where he lectures on structural and territorial engineering for both engineers and architects.

Hilde Huyghe

Coussée Goris Huyghe architecten

Hilde is involved in projects of different scales, which she elaborates from design to execution. Her architectural language is characterized by simplicity and logic, with particular attention to materiality and detail.

Hilde graduated as Master of Architecture in 1991 in Sint-Lucas Ghent. She worked at the architectural office of Stéphane Beel for 6 years. After that she started her own firm together with Tomas Nollet. Today she is a partner at Coussée Goris Huyghe architecten in Ghent.

Tania Vandenbussche

Architecten Els Claessens en Tania Vandenbussche

Tania works with ectv architecten on projects of varying scale and programme, from a small pavilion to larger public and residential buildings. For them it is not only the quality of the design itself that counts, but also the added value of the project for the city, the village or the landscape.

Tania graduated as an architect from the Sint-Lucas Higher Architecture Institute in Ghent and started working with Els Claessens in 1997. She has been teaching in a design studio of the UGent for a long time and is a member of the Quality Chamber of Architecture in Ghent.

Adrien Verschuere

BAUKUNST

Studies in Architecture at ISA St-Luc Tournai, Belgium and at the École Polytechnique Fédérale de Lausanne, Switzerland (diploma with Prof. E. Zenghelis in 1999). He was a design architect at the office of Herzog & de Meuron, Basel between 2000 and 2003 and collaborated with the Office for Metropolitan Architecture - Rem Koolhaas, Rotterdam until 2001. Adrien Verschuere is the co-founder of the architecture firm Made in, Geneva, Switzerland.

In 2008, he established BAUKUNST in Brussels and from 2017 in Lausanne. Besides his current teaching position at the Université Catholique de Louvain, diploma tutor, Adrien Verschuere is regularly invited as guest critic or lecturer in various institutions, among others: the FAUP Porto, IRGE Universität Stuttgart, Berlage Institute Rotterdam, USI Accademia di Architettura Mendrisio, ETH Zürich and the EPF Lausanne. In 2017, the first built projects were both nominated to the Mies van der Rohe Award. Since 2019, Adrien Verschuere is Visiting Professor at the École Polytechnique Fédérale de Lausanne, Switzerland.