

## **Robots captivate Architecture - First international conference in Vienna**

*Robots are playing an increasingly important role in architecture, art, and design. This December, for the very first time, robots are the topic of an international conference in Vienna.*

The exciting combination of robotics and architecture will be the topic of interest this December in Vienna. On December 17th and 18th, the "Rob|Arch - Robotic Fabrication in Architecture, Art, and Design" conference will bring both researchers and professionals to Vienna University of Technology. Prior to the conference, eight parallel workshops led by internationally recognised robot specialists from institutions such as the University of Stuttgart, TU Delft, ETH Zurich, TU Graz, SciArc, University of Michigan, Harvard, and TU Vienna will take place in Vienna, Rotterdam, Zurich, Stuttgart, and Graz. The workshops are held on December 14th to 16th, immersing participants to cutting-edge robotic research. The conference will be inaugurated by Prof. Klaus Semsroth, Dean of TU Vienna's Faculty of Architecture.

The Rob|Arch conference series has been initiated by Sigrid Brell-Cokcan and Johannes Braumann, co-founders of the "Association for Robots in Architecture", a spin-off research association of TU Vienna. "These workshops cover an extremely wide spectrum of applications such as a seven-axis KUKA robot processing complex wooden structures, a massive ABB robotic arm milling concrete, to three cooperating Staeubli robots." explains Sigrid Brell-Cokcan. The results of the workshops as well as research projects, chosen by the scientific committee, will be presented and discussed at the conference. "The conference topic targets a wide audience of both professionals and researchers, as well as architects, artists, and designers who are interested in new technologies.", observes Johannes Braumann.

### **Significant Interest from Industry**

The conference has been met with significant interest from industry. KUKA Robotics from Augsburg/Germany is Rob|Arch's main sponsor. ABB and Staeubli Robotics, gripping technology specialist Schunk, and milling-experts A<sup>2</sup> also kindly support the conference. The workshops are sponsored by security expert Euchner, steel construction firm Zeman, software developer McNeel, and the Austrian composite start-up SuperTex. KUKA Roboter GmbH will award the "KUKA Young Potential" grant with a total worth of €2000 for the best scientific paper by a young researcher of less than 35 years. "We are very grateful for their support as the industry's interest in the conference proves the significance of the research into the use of robots in architecture." states conference initiator Sigrid Brell-Cokcan. "Judging from our experience, the industry is becoming increasingly aware of the creative potential of architectural processes - with both sides stimulating each other." observes Eric Dokulil, KUKA expert and board member of the transdisciplinary research association. The scientific contributions to the conference will be published in a book by the internationally recognised publishing house Springer.

## **Highlights**

Numerous architects, artists, and designers, alongside robot-researchers and start-ups, will present their innovative work at the conference. Among the presenters are Clemens Neugebauer and Martin Kölldorfer, two Austrian artists, whose 17 by 23 metre aluminium sculpture was recently unveiled at the Red Bull racing circuit. The casting molds for the massive arch, consisting of 1,500,000 cans of Red Bull, were fabricated by the artists themselves, using a KUKA industrial robot. The artists will discuss their experience with industrial robots in an artistic context. Another highlight is the presentation by robot-pioneers, Fabio Gramazio and Matthias Kohler, professors at the ETH Zurich for architecture and digital fabrication and authors of numerous publications about the use of robots in architecture. Their brick-stacking projects are known worldwide, where bricks are arranged by robots to create emerging patterns. Bricks are stacked not only using industrial robots, but also using flying robotic drones - as recently demonstrated at the Frac Centre. Founded by ETH researchers, the start-up, ROB Technologies, further explores these strategies and will present new software for flexible, robotic brick stacking. Zeman is an internationally active steel construction firm, whose Austrian office develops complex, robot-based welding applications, which will soon be sold around the world and are expected to be mainly used in the construction industry.

Rob|Arch 2012 will offer participants the unique possibility to test-drive robots from different manufacturers at a single event, and experience 2012's robotic innovations, such as the KUKA LWR, the speedy KUKA Agilus, and the KUKA CNC and KUKA|prc control interfaces.

**For the full program and further information, please visit [www.robarch2012.org](http://www.robarch2012.org)**

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