

Press release

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3D-printed security key wins first prize of the purmundus challenge at the Formnext 2019

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With his project "Stealth Key" Dr. Alejandro Ojeda from UrbanAlps AG won the first prize of this year's purmundus challenge at the Formnext 2019 in Frankfurt. Using Stealth Technology, Ojeda has created a physical key and cylinder system in which the code is neatly hidden under robust, narrow projections. As the key cannot be scanned, it offers maximum security and works independently of digital systems.

Nicole Hone from the Victoria University of Wellington was awarded second prize for her 4D-printed "Hydrophytes". The hydrophytes are a series of five futuristic aquatic plants and show an innovative approach to organic movement design using multimaterial 4D printing. With the added dimension of time in 4D printing, the designer's role extends to choreographing the performance of objects.

Third place went to Dr. Paul Schüler and Andreas Krüger from CellCore GmbH for their monolithic combustion chamber of a rocket engine. The core element of the demonstration piece is the functionally optimized lattice structure integrated into the chamber wall, which in addition to the necessary stability also offers cooling possibilities through efficient execution.

The audience award, which was voted for by the visitors of Formnext, went to the 3D printed mountain bike frame by Byron Blakey-Milner from NMU ECO-CAR.

The award presented for the first time for Simulation Driven Design went to Gabriel Boutin from KUPOL INC. for his individualized motorcycle helmet KUPOL R1-0. Andreas Henneberg from Diehl Aviation Laupheim GmbH was also honoured with the "Special Mention". He received this for the 3D printed aircraft interior component "Curtain Comfort Header".

With modern 3D printing, Andrea Toulouse from the University of Stuttgart was also able to cross the boundaries of endoscopic printing and win the "Innovation Prize". In this way, lens systems' can be printed directly on glass fibers and achieve the endoscope diameter in the micrometer range - comparable to a human hair.

All awards were presented yesterday at the Formnext award ceremony.

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Background information on Formnext

Formnext is the leading trade fair for Additive Manufacturing and the next generation of intelligent manufacturing solutions. It focuses on the efficient realization of parts and products, from their design to serial production. Formnext shows the future of innovative manufacturing. Formnext is organized by Mesago Messe Frankfurt GmbH. (formnext.com)

About Mesago Messe Frankfurt

Mesago, founded in 1982 and located in Stuttgart, specializes in exhibitions and conferences on various topics of technology. The company belongs to the Messe Frankfurt Group. Mesago operates internationally and is not tied to a specific venue. With 160 members of staff Mesago organizes events for the benefit of more than 3,300 exhibitors and over 110,000 trade visitors, conference delegates and speakers from all over the world. Numerous trade associations, publishing houses, scientific institutes and universities work with Mesago closely as advisers, co-organizers and partners. (mesago.com)

Background information on Messe Frankfurt

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Background information on TCT (Content Partner)

Established in 1992, TCT Group's mission is to accelerate design-to-manufacturing innovation. Through global trade shows, conferences, magazines, websites and digital products TCT delivers business-critical insights on the technologies that help manufacturers make better products, more quickly and cost-effectively. Through the TCT Awards TCT celebrates the most innovative products and applications across the design-to-manufacturing process chain. The TCT Group is owned by Rapid News Publications Ltd, part of Rapid News Group. (thetctgroup.com)

Background information on the Working Group Additive Manufacturing (Honorary Sponsor)

Within the Working Group Additive Manufacturing, about 150 companies and research institutes collaborate under the direction of the German industry federation VDMA. Here, plant engineers; component and material suppliers; industrial companies that work with metals and plastics; service providers in software, manufacturing, and processing; and numerous researchers all work toward the same goal: the industrialization of additive manufacturing techniques. (am.vdma.org)

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