Joris Laarman Solo Exhibition *Joris Laarman Lab: Gradients*

Press Conference: May 10 (Thurs.), 2018, 1:30PM at Kukje Gallery K2
Exhibition Dates: May 10 – June 17, 2018
Venue: Kukje Gallery K2

Kukje Gallery is pleased to announce *Joris Laarman Lab: Gradients*, a solo exhibition of work by Joris Laarman on view from May 10 to June 17, 2018, in the gallery's K2 space. Laarman's second exhibition at Kukje Gallery following his debut in 2011, *Joris Laarman Lab: Gradients* presents new and recent works spanning four years of cutting-edge experimentation in the designer's Amsterdam-based Joris Laarman Lab (hereafter "the Lab"). The installation will allow audiences to encounter a broad range of his work, framing both his skills in design and engineering as well as his visionary aesthetic. The artworks will be presented alongside related videos, sketches, and renderings that illustrate the Lab's commitment to experimentation and innovative creative processes.

Gradients is comprised of works from all of the Lab's recent series, including *Microstructures*, *Dragon*, *Maker*, and *Gradient Screen*. The *Microstructures* series is based on gradient patterning and explores the pioneering use of 3D printing technology at the scale of furniture. Each work is made up of cells that vary in form, size or function. For the *Dragon Benches* and *Gradient Screen*, the Lab developed a revolutionary large scale metal printing tool, the MX3D metal printer, enabling the Lab to create unprecedented sculptural works by drawing complex curved lines and surfaces in mid-air that were previously not feasible. Various versions of *Dragon Benches* are now in museum collections around the world, and serve as proof of concept for much larger architectural and infrastructural projects like the Lab's first 3D printed stainless steel bridge—to be completed later this year. Laarman's *Maker* series are built from parametric parts that are engineered to build furniture in complex organic forms and patterns from materials like solid wood. The *Maker* series has been included in over a dozen institutional collections and exhibitions to date.

On view for the first time is a new installation of *Turing Tables*, named after the seminal mathematician Alan Turing. Near the end of his life, Turing wrote his first and last paper on biology and chemistry, detailing how a type of chemical reaction ought to produce many patterns seen in nature. In the following decades, scientists have been able to prove many of his postulates, discovering various stripes, spirals, and whorls—so-called Turing Patterns—throughout the natural world. This has led many to think that Turing Patterns may actually extend to ecosystems, even to galaxies. The installation will center around a group of unique tables made of bronze and stainless steel, all produced using the MX3D printing robots. The *Turing Tables*' computationally generated aesthetics are pushing the boundaries of current technology.

Joris Laarman Lab: Gradients is the artist's first gallery exhibition since his inclusion in the acclaimed NGV (National Gallery of Victoria) Triennial in Melbourne, Australia and since the start of the traveling retrospective, *Joris Laarman Lab: Design in the Digital Age*. The retrospective is due to open at the Museum of Fine Arts, Houston, in late June 2018 and was previously on view at the Groninger Museum, Groningen, the Netherlands; the High Museum of Art, Atlanta; and Cooper Hewitt, Smithsonian Design Museum, New York. *Gradients* highlights the practice of one of the 21st century's most innovative designers. Joris Laarman remains one of the most visionary proponents of integrated design, illustrating how art and digital technology can together transform materials and the world we live in.

Major Works

Maker Table (2014), *Maker Chairs* (2014): The *Maker* series consists of works utilizing parametric design tools that form geometric patterns with mathematical formulas. Walnut wood is portioned into small pieces that take after the hexagon or a mesh; the fabricated 3D pieces fit together exactly, like a three-dimensional puzzle. The fractioning of designs into many small parts allows not only for the utilization of diverse mediums and production of complex structures, but also radically expands the potential of small, consumer 3D printers. Blueprints of the 3D-printable version of the *Maker Chairs* are available on the Internet under a Creative Commons license for people all over the world to download, modify, and manufacture themselves.

Microstructures Aluminum Gradient Chair (2014): The *Aluminum Gradient Chair* was directly laser sintered in aluminum, made using generative design tools (technology that almost automatically outputs appropriate designs with the input of computerized algorithms) and new materials research. The *Aluminum Gradient Chair* is engineered on a cellular level to address specific functional needs for different areas within the piece. The dense grouping of solid cells compose the rigid framework of the *Aluminum Gradient Chair*, while more open cells towards the surface create material reduction and lightness.

Microstructures Soft Gradient Chair (2014): Like the *Microstructures Aluminum Gradient Chair*, the *Soft Gradient Chair* also elaborates on the use of aluminum and polyurethane in furniture design in the digital age. Once again the Lab used materials research and generative design tools, eventually 3D printing thermoplastic polyurethane to create the furniture piece. Diverse programmatic changes create variations in the cell—affecting its size, porosity, thickness, flexibility, rigidity, hardness, softness, and color—and the cells in turn compose objects that address functional conditions through their variations. Manufactured entirely with polyurethane, the *Soft Gradient Chair* is characterized by its comfort and softness.

Microstructures Adaption Chair (2014): The epitome of how cutting-edge technology manifests in digital craftsmanship, *Adaption Chair* utilizes extensive computer programming that transforms the cellular geometry to serve the needs of the different areas within the chair. The vertical, long cells shoot out from the bottom in a manner reminiscent of tree branches, which then branch out into legs that hold the support structure which bolsters the seat.

Microstructures Gradient Lounge Chair (2015): The *Gradient Lounge Chair* consists of hexagonal cells that spread out across the chair, morphing to address functional areas within. An example of the Lab's exploration of cellular-based structures in combination with digitally fabricated upholstery, the mixed-textile cover—with identical measurements as the hexagonal *Gradient Lounge Chair* itself—was knitted on a computer-controlled knitting device.

Vortex Console (2014): The *Vortex Console* was inspired by the artist, scientist, and programmer Mark J. Stock's research on computational vortex methods. Stock inputs algorithms into supercomputers through a highly computational code that self-organizes into complex structures, creating a whirlwind motion that belies the seeming simplicity of the work's surface. The production of the *Vortex Console* was engineered in such a way that it would allow each user to create a new variation every time, highlighting Laarman's emphasis on functionality, ornamentation, and personalization in an age where furniture is mass produced and aesthetically uniform.

Gradient Screen (2017): The *Gradient Screen* is an experimental sculptural work of a grand scale produced with the Lab's multi-axis, metal 3D printing tool MX3D, utilizing a variety of materials ranging from bronze to steel. The computationally generated aesthetic of the screen creates not only an artistic masterpiece but also pushes the boundaries of today's technology. 3D printing of this scale has heretofore been uncharted territory, and the Lab continues to explore the potential of the 3D printing technology that employs the extensive use of lines.

About the Artist

Joris Laarman was born in the Netherlands in 1979, and graduated cum laude from the Design Academy Eindhoven in 2003. Founded in 2004, the Lab is a multidisciplinary hub of scientists, engineers, programmers, and craftspeople who explore the possibilities of design through research, experimentation, and groundbreaking technology. They are pioneers in a field where design, technology, science, and art meet. Laarman's work has been exhibited internationally and can be found in major collections worldwide including the Centre Pompidou, Paris, the Museum of Modern Art, New York, and the Rijksmuseum, Amsterdam. He has also received numerous awards including Wallpaper*'s "Young Designer of the Year" in 2004 and "Innovator of the Year" by the Wall Street Journal in 2011. Laarman currently lives and works in the Netherlands.

High-resolution images are available for download via Webhard.
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Joris Laarman (b.1979)
Microstructures Gradient Aluminum Chair
2014
Aluminum
72 x 62 x 60 cm
Courtesy Joris Laarman Lab
Image provided by Kukje Gallery

Joris Laarman (b.1979)
Microstructures Gradient Lounge
2015
Copper and nickel plated 3D printed polyamide, silk, mercerised cotton and Merino wool
90 x 200 x 100 cm
Courtesy Joris Laarman Lab
Image provided by Kukje Gallery

Joris Laarman (b.1979)
Dragon Bench
2014
3D printed stainless steel
215 x 320 x 160 cm
Photography by Adriaan de Groot
Courtesy Joris Laarman Lab
Image provided by Kukje Gallery

Joris Laarman (b.1979)
Pair of Maker Chairs (Puzzle)
2014
Walnut and maple
78 x 60 x 65 cm
Courtesy Joris Laarman Lab
Image provided by Kukje Gallery

Artist profile of Joris Laarman
Courtesy Joris Laarman Lab
Image provided by Kukje Gallery