

CURRICULUM VITAE

Extended



PERSONAL

SURNAME **PIŠKOREC**

NAME **LUKA**

TITLE MSc ETH Arch

ACADEMIC ADDRESS School of Art, Design and Architecture
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DATE OF BIRTH 27.08.1986

PLACE OF BIRTH Bjelovar, Croatia

NATIONALITY Croatian

LANGUAGES Croatian (native)
English (fluent)
German (fluent)

ACADEMIC

2017 - present	Lecturer in Design of Structures, Aalto University, Helsinki, Finland
2011 - 2017	Research assistant at Gramazio Kohler Research on Department of Architecture at ETH Zürich, Switzerland
2009 - 2011	Master of Science in Architecture from ETH Zürich, Switzerland
2005 - 2008	Bachelor of Science in Architecture from Faculty of Architecture at the University of Zagreb, Croatia
2001 - 2005	Mathematics and Science Gymnasium in Bjelovar, Croatia
1986	born in Bjelovar, Croatia

WORK

2015	Co-founding of TEN Association in Zürich, Switzerland
2009	Internship at Wepfer Architekten in Arbon, Switzerland
2008 - 2009	Internship at 3LHD Studio in Zagreb, Croatia
2007	Internship at UPI-2M architectural and engineering office in Zagreb, Croatia

SHORT BIO

LUKA PIŠKOREC studied architecture at the University of Zagreb in Croatia and worked in architectural offices in Croatia and Switzerland. He continued his studies at the ETH Zürich and received his Master of Science in Architecture (MSc ETH Arch) in 2011. During his studies, he concentrated on digital fabrication techniques as well as algorithmic programming procedures applied to architecture. He organized and led multiple international workshops on the related topics. In 2011 he started working as a research assistant at Gramazio Kohler Research at ETH Zurich. From 2011 to 2014, he was leading the Chair's elective course and elective thesis workshops dealing with the development of robotic digital fabrication techniques and their implementation in architectural design. From 2015 to 2017 he was involved in organizing and teaching at the newly formed Master of Advanced Studies (MAS) ETH in Architecture and Digital Fabrication. In 2015 he co-founded the Zurich based TEN Association, a group dedicated to initiation and promotion of cultural ventures, with which he won the Swiss Art Awards in 2018. Since 2017 he works as Lecturer in Design of Structures at Aalto University in Helsinki.

REFERENCES

Prof. Fabio Gramazio, Gramazio Kohler Research, Chair for Architecture and Digital Fabrication, ETH Zürich, Switzerland

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Prof. Matthias Kohler, Gramazio Kohler Research, Chair for Architecture and Digital Fabrication, ETH Zürich, Switzerland

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Dr. Russell Loveridge, Managing Director, NCCR Digital Fabrication, Zürich, Switzerland

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Prof. Dr. Jan Willmann, Professur für Theorie und Geschichte des Design, Bauhaus-Universität Weimar, Germany

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Prof. Dr. Toni Kotnik, Professor in Design of Structures, Aalto University, Finland

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SKILLS

SCRIPTING LANGUAGES	Multi-Paradigm: Python, JavaScript, C#, Processing, Unity, Arduino, Grasshopper, Matlab Procedural: Logo, Basic, Pascal Robot System Specific: UR Script, KRL, RAPID Web: PHP, HTML5
SOFTWARE	CAD: Rhinoceros, AutoCad, ArchiCad, SolidWorks, VectorWorks, SketchUp, Blender Graphic: Photoshop, Illustrator, InDesign Video editing: Premiere, Finalcut
MECHATRONIC	Electronics: circuit boards, micro-controllers, sensor integration, machine communication Mechanical: metal working, building of mechanisms, pneumatic and hydraulic actuation Robot systems: Kuka KR 150 L110, ABB IRB 4600, Universal Robots UR5 and UR10

PEER-REVIEWED PAPERS

- 2018 Piškorec L., Jenny D., Parascho S., Mayer H., Gramazio F., Kohler M. **"The Brick Labyrinth."** In: Willmann J., Block P., Hutter M., Byrne K., Schork T. (eds) *Robotic Fabrication in Architecture, Art and Design 2018*. ROBARCH 2018. Springer, Cham
- 2016 Søndergaard, Asbjørn, Oded Amir, Phillip Eversmann, Luka Piškorec, Florin Stan, Fabio Gramazio, Matthias Kohler. **"Topology Optimization and Robotic Fabrication of Advanced Timber Space-Frame Structures."** In *"Robotic Fabrication in Architecture, Art and Design 2016"*, Dagmar Reinhardt, Rob Saunders, Jane Burry, 190-203. Springer International Publishing, 2016.
- 2015 Helm, Volker, Jan Willmann, Andreas Thoma, Luka Piškorec, Norman Hack, Fabio Gramazio, Matthias Kohler. **"Iridescence Print: Robotically Printed Lightweight Mesh Structures."** *3D Printing and Additive Manufacturing* vol. 2, no. 3, (2015): 117-122.
- 2014 Dörfler, Kathrin, Sebastian Ernst, Luka Piškorec, Jan Willmann, Volker Helm, Fabio Gramazio, Matthias Kohler. **"Remote Material Deposition: Exploration of Reciprocal Digital and Material Computational Capacities."** In *"What's the Matter: Materiality and Materialism at the Age of Computation"*, edited by Maria Voyatzaki, 361-77. Barcelona: 2014.

ARTICLES

Piškorec, Luka. **"Remote Material Deposition."** *Space 562, Envisaging the Reality of Digital Fabrication: 3D Printing and Robotics* (2014): 65.

WORK FEATURED IN

- 2014 Gramazio, Fabio, Matthias Kohler, Jan Willmann. **"The Robotic Touch: How Robots Change Architecture: Gramazio & Kohler Research ETH Zurich 2005-2013"**, Zürich: Park Books, 2014.
- 2012 Willmann, Jan, Fabio Gramazio, Matthias Kohler and Silke Langenberg. **"Digital by Material: Envisioning an extended performative materiality in the digital age of architecture."** In *Robotic Fabrication in Architecture, Art, and Design*, edited by Sigrid Brell-Cokcan and Johannes Braumann, 12-27. Vienna: Springer, 2012.
- 2012 Willmann, Jan, Fabio Gramazio, und Matthias Kohler. **"Roboterbasiertes Bauen, Architektur und digitale Fabrikation."** *Deutsche Bauzeitschrift* 11, 60 *Parametrisches Bauen* (2012): 56 - 59.

AWARDS

- 2016 **Best Workshop Award RobArch 2016**, runner up, Spatially Extruded Structures, Sydney
2012 **1st prize, International Student Competition Velux 2012**, mentor to Li Bo and Ge Man

CONDUCTED UNIVERSITY COURSES

- 2016 - 2017 **Master of Advanced Studies in Architecture and Digital Fabrication**, one year specialist program, ETH Zürich, post-master level, teaching co-lead
2015 - 2016 **Master of Advanced Studies in Architecture and Digital Fabrication**, one year specialist program, ETH Zürich, post-master level, teaching co-lead
2015 **Extruded Structures**, elective course and elective thesis workshop done at Gramazio Kohler Research, ETH Zürich, master level, teaching lead
2014 **Remote Material Deposition**, elective course and elective thesis workshop done at Gramazio Kohler Research, ETH Zürich, master level, teaching lead
2014 **Depth Modulations**, elective course and elective thesis workshop done at Gramazio Kohler Research, ETH Zürich, master level, teaching lead
2013 **Complex Timber Structures**, elective course and elective thesis workshop done at Gramazio Kohler Research, ETH Zürich, master level, teaching lead
2013 **Shifted Frames**, elective course and elective thesis workshop done at Gramazio Kohler Research, ETH Zürich, master level, teaching lead
2012 **Spatial Aggregations**, elective course and elective thesis workshop done at Gramazio Kohler Research, ETH Zürich, master level, teaching lead
2012 **Fragile Structure**, elective course and elective thesis workshop done at Gramazio Kohler Research, ETH Zürich, master level, teaching lead

CONDUCTED WORKSHOPS

- 2016 **Spatially Extruded Structures**, conference workshop, RobArch 2016, Sydney, Australia, teaching co-lead
2015 **Motovun Architecture Unit**, summer workshop, Motovun, Croatia, teaching co-lead
2015 **Nautilus Project**, summer workshop, Skopje, Macedonia, co-author
2015 **Iridescence Print**, elective thesis winter, Architecture and Digital Fabrication, ETH Zürich, Switzerland, teaching lead
2014 **UR Programming**, guest workshop with prof. Matthias Karch, TU Braunschweig, Germany, teaching lead
2014 **Re:Public**, summer workshop, University of Zagreb, Croatia, co-author and teaching co-lead

- 2014 **Remote Material Deposition**, elective thesis summer, Architecture and Digital Fabrication, Kunstgiesserei St. Gallen, Switzerland, teaching lead
- 2014 **Depth Modulations**, elective thesis winter, Architecture and Digital Fabrication, ETH Zürich, Switzerland, teaching lead
- 2013 **Complex Timber Structures**, elective thesis summer, Architecture and Digital Fabrication, ETH Zürich, Switzerland, teaching lead
- 2013 **Shifted Frames**, elective thesis winter, Architecture and Digital Fabrication, ETH Zürich, Switzerland, teaching lead
- 2012 **Spatial Aggregations**, elective thesis summer, Architecture and Digital Fabrication, ETH Zürich, Switzerland, teaching lead
- 2011 **The Fragile Structure**, elective thesis winter, Architecture and Digital Fabrication, ETH Zürich, Switzerland, teaching lead
- 2011 **Modeling Tensegrity Structures**, summer workshop at S3, Visnjan, Croatia, teaching lead

MENTORED MASTER THESES

- 2016 **Spatial Textile Hybrids: Self Forming 3d-Printing-Induced Structures**, master thesis by Jorge Christie, thesis advisors prof. Fabio Gramazio and prof. Matthias Kohler, submitted for MAS DFAB program
- 2016 **Robotic Fabrication of Catalan Vaulting: Controlling Feasibility through Curvature Manipulation**, master thesis by Ioannis Mirtsopoulos, thesis advisors prof. Fabio Gramazio and prof. Matthias Kohler, submitted for MAS DFAB program
- 2016 **The Vitruvian Robot: Integrated Analogue and Digital Parameters for Design and Fabrication of Spatial Tubular Extrusion**, master thesis by Shiu Lun Cheung, thesis advisors prof. Fabio Gramazio and prof. Matthias Kohler, submitted for MAS DFAB program
- 2016 **Robotic Spatial Bending Of Glass Rods**, master thesis by Wei-Yu Hsiao, thesis advisors prof. Fabio Gramazio and prof. Matthias Kohler, submitted for MAS DFAB program
- 2016 **Robotic Elastic Bending of Glue Laminated Wood Veneer**, master thesis by Fabio Scotto, thesis advisors prof. Fabio Gramazio and prof. Matthias Kohler, submitted for MAS DFAB program
- 2016 **Autonomous 3d Printing of Spatially Extruded Structures through Machine Learning**, master thesis by Katrin Hochschuh and Jose Paixao, thesis advisors prof. Fabio Gramazio and prof. Matthias Kohler, submitted for MAS DFAB program
- 2016 **Adaptive Building Skin**, master thesis by Larisa Gabor and Anastasia Zaytseva, thesis advisors prof. Fabio Gramazio and prof. Matthias Kohler, submitted for MAS DFAB program

BUILT PROJECTS

- 2015 - 2016 **MAS DFAB Pavilion**, pavilion with an upper floor and cladding, wood beams connected with screws and wooden shingles as cladding, robotic process with integrated pre-fabrication and complex spatial assembly, built at ETH Zürich, Switzerland
- 2015 **Nautilus Construct**, outdoor stage, painted steel profiles and treated fabric, manual production, collective initiative by TEN Association, Zürich, and City Creative Network, Skopje built in Skopje, Macedonia
- 2015 **Iridescence Print**, curving wall, robotic process with thermoplastic spatial extrusion, built at ETH Zürich, Switzerland, exhibited at Palais de Tokyo in Paris, France
- 2014 **Remote Material Deposition Installation**, curving wall, robotic process with clay projectile shooting and deposition, built at Kunstgiesserei, St. Gallen, Switzerland
- 2014 **Depth Modulations**, four wall panels, PVC tubes with acryl inserts, connected together with hot melt adhesive, robotic process with integrated pre-fabrication and additive assembly, built at ETH Zürich, Switzerland
- 2013 **Complex Timber Structures**, funnel structure, wood beams connected with screws, robotic process with integrated pre-fabrication and complex spatial assembly, built at ETH Zürich, Switzerland
- 2013 **Shifted Frames**, pavilion, wood beams connected with screws, additive robotic assembly, built at ETH Zürich, Switzerland
- 2012 **Spatial Aggregations**, pavilion, PVC pipes connected with cable ties, robotic pre-fabrication with manual assembly, built at ETH Zürich, Switzerland
- 2012 **Fragile Structure**, wall, dry stacked wood boards, in situ robotic assembly, built at ETH Zürich, Switzerland
- 2011 **Procedural Wall**, wall panel, reinforced concrete casted on the latex coated sand formwork, additive robotic aggregation and concrete casting, built at ETH Zürich, Switzerland
- 2010 **Programmed Column**, column, standard bricks connected with construction glue, additive robotic assembly, built at ETH Zürich, Switzerland

EXHIBITIONS

- 2015 **Haus Ohne Eigenschaften**, Interactive piece done for Architektur 0.15 in Maaghalle in Zürich, Switzerland, exhibition by the Walter Steiner Kollektiv
- 2015 **Iridescence Print**, curving wall, robotic process with thermoplastic spatial extrusion, built at ETH Zürich, Switzerland, exhibited at Palais de Tokyo in Paris, France, exhibition by Gramazio Kohler Research
- 2014 **Remote Material Deposition Installation**, curving wall, robotic process with clay projectile shooting and deposition, built at Kunstgiesserei, St. Gallen, Switzerland, exhibition by Gramazio Kohler Research
- 2014 **Re:Public**, publication based on the student workshop “Zagreb Rooms” held in the summer of 2014 and published on the occasion of the Re:public exhibition in the French Pavilion, Zagreb, Croatia