**Petras Vestartas**

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**Date of birth** 13/12/1989

**Nationality** Lithuanian

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| **LANGUAGE** | English | Full professional proficiency (C1) |
| German | Basic user of the language (A2/B1) |
| French | Elementary (A1) |
| Lithuanian | Mother Tongue |

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| **PROFESSIONAL EXPERIENCE** | 2023-Present | **Post-doc** **Block Research Group** **(BRG)**, Swiss Federal Institute of Technology in Zurich (ETHZ), Switzerland, [www.brg.ethz.ch](http://www.brg.ethz.ch).  (COMPAS Python framework development, research in Timber-Vaulted-Floor Systems, workshops and assistance to teaching.) |
| 2021-2023 | **Post-doc** **Laboratory for Timber Constructions (IBOIS)**, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland, [www.dfab.ch](http://www.dfab.ch), [www.epfl.ch/labs/ibois](http://www.epfl.ch/labs/ibois)  (Supervision of PhD Thesis, compas\_wood development, ABB 6700 Robot with track motion commission and the structural system development for the Brussels Sports Tower - Competition 1st place) |
| 2016-2017 | **Research Assistant, CITA,** Royal Danish Academy of Fine Arts (KADK), Copenhagen, Denmark, [www.royaldanishacademy.com/CITA](http://www.royaldanishacademy.com/CITA)  (Flora Robotica and Complex Modelling 5 – Inflated Restraint) |
| 2014-2016 | **Architect, DMAA,** Vienna, Austria, [www.dmaa.at](http://www.dmaa.at)  (Austrian Pavilion – Architecture Venice Biennale, Italy (Commission 2016), Wohnen Am Schweizer Garten, Vienna, Austria (1st Place), Fiducia GAD, Karlsruhe, Germany (Competition 2015), Zollhafen, Mainz, Germany (Competition 2015), Elbrucken, Hafencity-Hamburg, Germany (Recognition), U5 – Wiener Linien, Austria (Competition 2015), Porsche Design Tower, Frankfurt, Germany (Competition 2015), Future Art Lab, Vienna, Austria (3rd Place), Central Park Taopu, China (Competition 2014)m Campus Tower, Hafencity, Hamburg, Germany (1st Place), Changchun Forest Park (Competition 2014) |
| 2012-2013 | **Architect, Do-Architects,** Vilnius, Lithuania, [www.doarchitects.lt](http://www.doarchitects.lt)  (Vilnius Bajorai masterplan) |
| 2011 | **Internship, CEBRA,** Aarhus, Denmark, [www.cebraarchitecture.dk](http://www.cebraarchitecture.dk)  (Valer Church, Hoje Taastrup masterplan) |
| 2010 | **Architect, Vakarinis Fasadas,** Siauliai, Lithuania  (Palanga Sanatorium, Druskininkai cafeteria) |
| 2009 | **Furniture Designer, Graniteka,** Siauliai, Lithuania  (Stone furniture 3D preparation for fabrication) |

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| **EDUCATION** | 2017-2021 | **Doctor of Philosophy (Ph.D.) in Architecture**, Laboratory for Timber Construction (IBOIS), École Polytechnique Fédérale de Lausanne (EPFL), Switzerland. |
| 2013-2014 | **Erasmus Exchange Program**, Royal Danish Academy of Fine Arts (KADK), Copenhagen, Denmark |
| 2012-2014 | **Master of Science (M.Sc.) in Architecture**, Vilnius Academy of Arts (VAA), Lithuania |
| 2008-2012 | **Bachelor of Science with distinction (B.Sc.) in Architecture**, Vilnius Academy of Arts (VAA), Lithuania |

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| **AWARDS** | 2022 | **"Best paper award - Runner Up**" at conference CAADRIA2022 for paper “Cockroach: an open-source tool for point cloud processing in cad”. |
| 2013 | **Lithuanian President Antanas Smetona Scholarship**, one year scholarship for excellent grades. |

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| **GRANTS AND FUNDING** | 2023 | **ETHZ Partnership Council for Sustainable Construction and Digital Fabrication,**  Timber Vaulted Floor funding for materials and CNC fabrication, **19’000.- CHF** |
| 2020-2022 | **EPFL Equipment funding for an industrial robot arm (ABB 6700) and track motion (6.7 m IRBT)**, coordination for the technical specification with robot integrators, software suppliers, EPFL staff and writing documents for the ABB spindle package, automatic tool changer and the multi-move configuration **182’240.- CHF and 45’000.- CHF** |
| 2022 | **ENAC Equipment Call**, High precision scanners (Photoneo, Sick, Roboception) and robotic integration parts. Structures, **33’949.- CHF** |

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| **TEACHING** | 2025 | **AA Summer School,** Co-Director of the Seoul AA Visiting School with a focus of COMPAS Python Framework courses. |
| 2025 | **CALGARY COMPAS Workshop,** COMPAS introduction, Form-finding using Rhino Vault and Fabrication Methods. |
| 2025 | **AEC Hackathon,** COMPAS support group for advertising the Python Framework, installation and new features development. |
| 2024 | **IBOIS COMPAS WOOD Workshop,** timber joinery techniques while demonstrating IBOIS built projects for master students. |
| 2024 | **IASS2024 workshop - Building Information Modelling with COMPAS,** workshop preparation and lectures to introduce geometry serialization to IFC file. |
| 2023-2025 | **Computation Structural Design (CSD I)**, assistance for the course in computational graphic statics using package COMPAS AGS (Algebraic Grap(ic) Statics). |
| 2020-2022 | **Introduction to Computational Architecture (AR-327)**, weekly course at EPFL proposed by a joint teaching PhD and Post-doc teaching for Rhino3D, Grasshopper and Python, www.edu.epfl.ch/coursebook/fr/introduction-to-computational-architecture-AR-327 |
| Online | **Advanced Timber Plate Structural Design**, online teaching resource for generating timber joinery: www.epfl.ch/education/continuing-education/catalog |
| 2020 - 2021 | **Master Thesis supervision,** theoretical thesis, architectural project and robotic cutting teaching for the final year master student Maxim Andrist, <https://infoscience.epfl.ch/record/289326>. |
| 2017-2022 | **EPFL Master Studio Teaching (MA1, MA2 and the traversal BA/MA studio),** weekly student project revision as part of 20% PhD contract. |
| 2017-2022 | **CNC and ABB Robot Programming,** teaching IBOIS, EPFL students CNC workflow using Rhino Grasshopper plugin Raccoon and 5-Axis CNC machine Maka. |
| 2020-2021 | **Land of Thousand Dance,** jointIBOIS+ALICE EPFL laboratories teaching at ENAC week for a design of reused timber elements. |
| 2019 | **Mesh Discretization and Assembly Methods (Corrugated Cardboard Shell 1:1),** Workshop at Vilnius Academy of Arts (VAA). |
| 2017 | **Aggregations and Graph-Based Modelling,** Workshop at Vilnius Academy of Arts (VAA). Exhibition is held at Architects Association of Lithuania 2017 - March 10-24. |

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| **DEVELOPED**  **SOFTWARE** | **COMPAS\_MODEL** – universal model data-structure for design, analysis, fabrication, and AEC objects, www.github.com/BlockResearchGroup/compas\_model |
| **OPENNEST** – nesting methods for CNC and Laser cutting, www.food4rhino.com/en/app/opennest |
| **RACCOON** – 5-axis CNC Fabrication methods, www.github.com/ibois-epfl/Raccoon |
| **COMPAS\_WOOD** – timber joinery modelling, www.ibois-epfl.github.io/compas\_wood/latest/ |
| **COCKROACH** – PointCloud Processing Library, www.ibois-epfl.github.io/Cockroach-documentation/ |
| **NGON** – polygonal mesh processing, www.food4rhino.com/en/app/ngon |
| **FOX** – aggregation and graph methods, www.food4rhino.com/en/app/fox |
| **SCATTER** – instancing objects for large 3D rendering scenes, www.food4rhino.com/en/app/scatter |

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| **SOFTWARE SKILLS** | **C++** – development using libraries: CGAL, OPENGL (GLFW), BOOST, EIGEN, OPEN3D, LIBIGL, PMP |
| **Python** – development using Nanobind, Pybind11, Rhino3D and Compas framework. |
| **C#** – professional and teaching experience |
| **Java** – creative coding mainly using Processing IDE |
| **JavaScript** – web development using VUE.js framework |
| **CMake** – basic library linking and super-build pattern |
| **GIT** – maintaining open-source repositories through version control. |
| **CAD/GRAPHICS** – Rhino3D/Grasshopper, Revit, Autocad, Adobe Package, ArcGIS, V-Ray |

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| **PUBLICATIONS** | 2025 | P. Vestartas P., L. Füssler, A. R. Rad, D. S. Lee, T. van Mele, P. Block. **Exploring the Potential of Funicular Timber Floors**. ICSA, Antwerp, Belgium, 2025. |
| 2022 | A. Settimi, P. Vestartas, J. Gamerro, Y. Weinand. **Cockroach: an open-source tool for point cloud processing in cad.** 27th International Conference of the Association for Computer-Aided Architectural Design Research in Asia (CAADRIA), Sydney, Australia, 2022. **Best paper award - Runner Up" at CAADRIA2022**  N. Rogeau, A. Rezaei Rad, P. Vestartas, P. Latteur, Y. Weinand. **A Collaborative Workflow to Automate the Design, Analysis, and Construction of Integrally-Attached Timber Plate Structures.** 27th International Conference of the Association for Computer-Aided Architectural Design Research in Asia (CAADRIA), Sydney, Australia, 2022 |
| 2021 | P. Vestartas, A. Rezaei Rad, and Y. Weinand. **Robotically-Fabricated Nexorades from**  **Whole Timber.** International fib Symposium on the Conceptual Design of Structures.  Switzerland, 2021.  A. Rezaei Rad, H. Burton, N. Rogeau, P. Vestartas, and Y. Weinand. **A framework to**  **automate the design of digitally-fabricated timber plate structures.** Computers & Structures, 2021. |
| 2020 | P. Vestartas and Y. Weinand. **Joinery Solver for Whole Timber Structures.** WCTE2020, Santiago, Chile, August 24-27, 2020.  P. Vestartas and Y. Weinand. **Laser Scanning with Industrial Robot Arm for raw wood**  **Fabrication.** ISARC2020, Kitakyushu, Japan, October 27-28, 2020. p. 773-780, 2020.  L. Vestarte, P. Vestartas, and R. Kucinskas. **Corrugated Cardboard Shell: A Pavilion**  **Project of An Architectural Workshop.** Advances in Architectural Geometry (AAG), 2020. |
| 2019 | P. Vestartas, N. Rogeau, J. Gamerro and Y. Weinand. **Modelling Workflow for Segmented Timber Shells using Wood-wood Connections.** Design Modelling Symposium Berlin 2019. Impact: Design with all Senses, p. 596-607, Berlin, Germany, September 23-25, 2019.  P. Vestartas, L. Palletier, M. T. Nakad, A. R. Rad, and Y. Weinand. **Segmented Spiral Using Inter-Connected Timber Elements.** IASS 2019 Barcelona Symposium: Timber and Bio-based Structures, 2019. |
|  | A. C. Nguyen, B. Himmer, P. Vestartas, Y. Weinand. **Performance Assessment of Double-Layered Timber Plate Shells using Alternative Structural Systems.** Proceedings of IASS Annual Symposia, 2019.  A. C. Nguyen, P. Vestartas, Y. Weinand. **Design framework for the structural analysis of free-form timber plate structures using wood-wood connections. Automation in**  **Construction**, 2019. |
| 2017 | P. Ayres, P. Vestartas, M. R. Thomsen. **Enlisting Clustering and Graph-Traversal Methods for Cutting Pattern and Net Topology Design in Pneumatic Hybrids.** Design Modelling Symposium (DMS) Paris 2017.  P. Vestartas, M. K. Heinrich, M. Zwierzycki, D. A. Leon, A. Cheheltan, R. La Magna, P. Ayres. **Design Tools and Workflows for Braided Structures.** Design Modelling Symposium  (DMS) Paris 2017.  M. Zwierzycki, P. Vestartas, M. K. Heinrich, P. Ayres. **High Resolution Representation and Simulation of Braiding Patterns.** Conference: Disciplines & Disruption, ACADIA 2017 |

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| **BOOK CHAPTERS** | 2022 | S. Berthier, C. Catsaros, M. Rinke, P. Vestartas, S. Vuilleumier, **Les cahiers de l’Ibois 3. Ibois Notebooks 3**, 2022. Introductory text and images are used from the PhD thesis. |
| 2021 | A. Rezaei Rad; P. Vestartas. Structural design methodology in Integrally-Attached Timber Plate structures. **Design of Integrally-Attached Timber Plate Structures**; London: Routledge, Taylor & Francis Group, 2021. p. 216. |
| 2020 | R. Kucinskas. **"Skaitmeninė architektūra VDA/ Digital architecture at the VAA".** Workshop results of 2011-2019 studying and teaching at VAA, 2020. |
| 2016 | D. Kohler. **The Mereological City. A reading of the works of Ludwig Hilberseimer.** Architecture [transcript], Results of the workshop “The Figure and its Figurations”, 2016. |
| 2014 | P. Vestartas, **Best graduation projects of architecture students in Baltic states**. Master Thesis project. 2014. |

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| **INVITED LECTURES AND CRITS** | 2024 | Jury member for: studio “**Programming Wood Waste**”. KIT, Karlsruhe, Germany. |
| 2023 | Keynote Presentation: **“Frontiers of Intelligent Timber Construction”,** Architectural DigitalFUTURES Talk, online.  Conference Presentation: “**Robotics and Digital Methods in Advanced Timber Structures”,** Vilnius Tech, Statyba ir Architektura, Vilnius, Lithuania. |
| 2022 | Lecture: **Robotic Timber Joinery**. Thinking Wood. Research and Practice. Aarhus school of Architecture, Denmark.  Lecture: **Research and Teaching**. CITA session. The Royal Danish Academy of Fine Arts, Denmark. |
| 2021 | Jury member for: studio “**Deep Volumes, a House for an Artist**”. i.sd. Structure and Design. University of Innsbruck, Austria. |
| 2017 | Jury member for: **3rd year BA studio**, Faculty of Engineering LTH, Lund University, Sweden. |

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| **EXHIBITIONS** | 2022 | Exhibition **ENAC 20 Years**: PhD thesis and videos from fabrication experiments together with IBOIS, EPFL built project and ongoing research, Lausanne, Switzerland.  Exhibition and book: “**TOUCH WOOD**”. Raw wood arch prototype using conical joints, Zurich, Switzerland. |
| 2019 | Teaching Workshop Exhibition: Corrugated Cardboard Shell 1:1, pavilion exhibition at **ARTVILNIUS’19**, Vilnius, Lithuania. |
| 2018 | Exhibition: **Rossiniere city hall exhibition** ofprof. dr. Yves Weinandlecture, accompanied by the hexagonal shell and raw wood prototypes, Rossiniere, Switzerland. |
| 2017 | Teaching Workshop: “**Aggregation and Graph-Based Modelling** “, Vilnius, Lithuania. |
| 2014 | MA Exhibition: “**Best graduation projects of architecture students in Baltic states**”, Vilnius, Lithuania.  Study Workshop: “**Figure and its figuration** “, Vilnius, Lithuania. |
| 2013 | Study Workshop: “**From Landscape to Roofscape** “, Vilnius, Lithuania. |
| 2012 | Study Workshop: “**Environmental design and its historical trajectories** “, Vilnius, Lithuania. |
| 2011 | Study Workshop: “**Architecture as organizational matter** “, Vilnius, Lithuania. |