

Marshall A. Prado

Research Associate, Institute of Computational Design - University of Stuttgart

EDUCATION

- University of Stuttgart - Institute for Computational Design**
2013 - Current Doctoral Candidate
- Harvard University - Graduate School of Design**
2011 - 2012 Master in Design Studies (Advanced Placement) | Technology - with Distinction
2009 - 2011 Master in Architecture | Post-Professional
- North Carolina State University - College of Design**
2004 - 2005 Bachelor of Architecture | Magna Cum-Laude - with Honors
1998 - 2004 Bachelor of Environmental Design in Architecture | Magna Cum-Laude with Honors
minors - Art/Design, Art Studies, Spanish

TEACHING EXPERIENCE

- University of Stuttgart, Institute for Computational Design** - Adjunct Professor
- 2016 Integrated Computational Design and Simulation - Graduate Seminar
2016 ICD/ITKE Research Pavilion 2016-17 - Graduate Studio
2016 Integrative Computational Design and Robotic Fabrication - Graduate Seminar
2015 Architectural Biomimetics - Graduate Seminar
2015 Fibrous Morphology - Graduate Studio
2015 Integrative Computational Design and Robotic Fabrication - Graduate Seminar
2014 Integrated Computational Design and Simulation - Graduate Seminar
2014 ICD/ITKE Research Pavilion 2014-15 - Graduate Studio
2014 Robotic Aggregations - Graduate Seminar
2014 Integrative Computational Design and Robotic Fabrication - Graduate Seminar
2013 Fibrous Morphology - Graduate Studio
2013 Architectural Biomimetics - Graduate Seminar
2013 Computational Design and Design Thinking - Graduate Seminar
2013 ICD/ITKE Research Pavilion 2013-14 - Vertical Studio
2013 - Current Master Thesis Advisor
- University of Hawaii at Manoa** - Assistant Professor
- 2012 Arch 543 Island Waste | Waste Island - Graduate Studio
2012 Arch 415 Remote Conditions - Undergraduate Studio
2012 Arch 235 Computer Applications in Architecture - Undergraduate Studio
- Harvard Graduate School of Design** - Teaching Assistant
- 2012 GSD 6423 (Re)fabricating Tectonic Prototypes
2012 GSD 6123 Materials, Construction, Processes
2011 GSD 1211 Topo Lab - Landscape Architecture III
2011 GSD 2241 Landscape Representation III
2010 GSD 2107 Digital Media II - 3D Visualization

ADDITIONAL TEACHING EXPERIENCE

- 2015 Sept, Nov Harvard Graduate School of Design: Workshop - *Fibrous Morphologies*
2014 May University of Michigan: RobArch 2014 Conference: Workshop - *Fiber Syntax*
2014 Sept Harvard Graduate School of Design: Workshop - *Material Performance*
2013 Sept Harvard Graduate School of Design: Workshop - *Robotic Fiber Winding*
2012 Nov Carnegie Mellon University: Studio Workshop - *Robotic Code Generation*
2011 - 2012 Harvard Graduate School of Design: Digital Media Instructor
2009 - 2012 Harvard Graduate School of Design: Head Technical Assistant
Fabrication Lab | CNC Fabrication | Robotics Lab | Robotic Fabrication

INVITED DESIGN JURIES

2015	University of Pennsylvania
2012	Carnegie Mellon University
2011	Wentworth Institute of Technology
2011, 2010	Harvard Graduate School of Design
2009	University of Michigan

FUNDED RESEARCH

	University of Stuttgart - Institute for Computational Design - Research Associate
2016 - 2019	Buga Pavilion 2019
2016 - 2018	Seaport Performance Structure
2016 - 2017	Vitra Campus Entry Pavilion
2016 - 2017	ICD/ITKE Research Pavilion 2016-17
2015 - 2016	Geddes Foundation Research Grant
2015 - 2016	Volkswagen Experiment Research Project
2015 - 2016	Victoria and Albert Museum - Elytra Filament Pavilion
2014 - 2015	University of Stuttgart - Hannover Messe Stand
2014 - 2015	ICD/ITKE Research Pavilion 2014-15
2013 - 2014	ICD/ITKE Research Pavilion 2013-14
	Harvard Graduate School of Design - Research Associate
2011 Sum	Design Robotics Group
2011 Sum	Real Estate Academic Initiative Grant

PRACTICE

2011	Preston Scott Cohen, Inc, Cambridge, MA Intern Architect
2007 - 2009	PLY Architecture, LLC, Ann Arbor, MI Junior Architect / Project Manager
2005 - 2007	Pearce, Brinkley, Cease +Lee Architecture, Raleigh, NC Junior Architect
2005	Kenneth E. Hobgood, Architects, Raleigh, NC Intern Architect
2003	Frank Harmon Architect, Raleigh, NC Design / Build

AFFILIATIONS

2016 - 2017	Fabricate 2017 Conference Review Committee
2016	Journal of Composite Materials Peer Reviewer
2015 - 2016	Rob Arch 2016 Conference Scientific Committee
2015	Kuka Robotic Programming Certification
2014 - Current	Association for Robots in Architecture
2014 - Current	Association for Computer Aided Design in Architecture
2012	University of Hawaii at Manoa Faculty NAAB Accreditation Committee Member
2011	Harvard Graduate School of Design Design Robotics Group & Student Technology Committee
2009 - Current	National Council of Architectural Registration Boards
2007 - Current	US Green Building Council LEED AP

SELECTED HONORS/AWARDS

2016	Detail Prize: Detail Structure runner-up Elytra Filament Pavilion
2015	Innovative Academic Program Award ITECH Program Acadia
2015	Acadia Scholarship Acadia
2012	Daniel L.Schodek Thesis Award for Technology and Sustainability Harvard University
2011	Digital Design Prize Harvard University
2011	Metalmag Architectural Award: Interiors Ayaka sushi PLY Architecture
2011	Michigan AIA Award Ayaka sushi PLY Architecture
2004	Faculty Design Award North Carolina State University

SELECTED PUBLICATIONS

- 2017 Yablonina, M., Prado, M., Baharlou, E., Schwinn, T., Menges, A.: 2017, Mobile Robotic Fabrication System Structures, in Proceedings of Fabricate 2017 Conference. Pending Publication
- 2017 Prado, M., Dörstelmann M., 2016. Elytra Filament Pavilion, in Proceedings of Fabricate 2017 Conference. Pending Publication
- 2017 Maxim, A., Lerke, O., Prado, M., Dörstelmann, M., Menges, A., Schwieger, V., UAV Guidance with Robotic Total Station for Architectural Fabrication Processes, in Proceedings of DVW - UAV 2017. Pending Publication
- 2016 Prado, M., Dörstelmann M., 2016. Integrative Design and Fabrication Methodologies for Fibrous Systems in Menges, A. (ed.): 2016, Material Performance – Fibrous Tectonics & Architectural Morphology, Harvard University GSD, Cambridge. (ISBN: 978-1-934510-57-5)
- 2016 Baranovskaya Y., Prado M., Dörstelmann M., Menges A., 2016, Knitflatable Architecture: Pneumatically Activated Preprogrammed Knitted Textiles, Proceedings of the 34th eCAADe Conference - Volume 1, Oulu School of Architecture, Oulu, Finland, 24-26 August 2016, pp. 571-580
- 2015 Vasey, L., Baharlou, E., Dörstelmann, M., Koslowski, V., Prado, M., Schieber, G., Menges, A., Knippers, J.: 2015, Behavioral Design and Adaptive Robotic Fabrication of a Fiber Composite Compression Shell with Pneumatic Formwork, in Combs, L. and Perry, C. (Eds.), Computational ecologies: Design in the anthropocene, Proceedings of the 35th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA), University of Cincinnati, Cincinnati OH, pp. 297–309. (ISBN 978-0-69253-726-8)
- 2015 Schieber, G., Koslowski, V., Dörstelmann, M., Prado, M., Vasey, L., Knippers, J., Menges A.: 2015, Integrated design and fabrication strategies for fibrous structures, in Ramsgaard Thomsen, M., Tamke, M., Gengnagel, C., Faircloth, B., Scheurer, F. (eds.): 2015 Modelling Behaviour – Proceedings of the Design Modelling Symposium Copenhagen 2015, Copenhagen, Denmark.
- 2015 Dörstelmann, M., Knippers, J., Menges, A., Parascho, S., Prado, M., Schwinn, T.: 2015, ICD/ITKE Research Pavilion 2013-14 – Modular Coreless Filament Winding Based on Beetle Elytra, Architectural Design, Vol. 85 No. 5, Wiley, London, pp. 54 -59. (ISBN 978-11118878378)
- 2015 Dörstelmann, M., Knippers, J., Koslowski, V., Menges, A., Prado, M., Schieber, G., Vasey, L.: 2015, ICD/ITKE Research Pavilion 2014-15 – Fibre Placement on a Pneumatic Body Based on a Water Spider Web, Architectural Design, Vol. 85 No. 5, Wiley, London, pp. 60 – 65. (ISBN 978-11118878378)
- 2015 Dörstelmann, M., Prado, M., Menges, A.: 2015, Explorative Design and Fabrication Strategies for Fibrous Morphologies in Architecture. In Yuan, P., Menges, A., Leach, N. (eds): 2015, Robotic Futures, Tongji University Press, Shanghai, pp. 54-65. (ISBN 978-7-5608-5845-6)
- 2014 Prado, M., Dörstelmann, M., Schwinn, T., Menges, A., and Knippers, J. 2014. "Core-Less Filament Winding"; In Robotic Fabrication in Architecture, Art and Design 2014 SE – 19, edited by Wes McGee and Monica Ponce de Leon, 275–289. Springer International Publishing.
- 2014 Parascho, S., Dörstelmann, M., Prado, M., Menges, A. and Knippers, J. 2014. "Modular Fibrous Morphologies: Computational Design, Simulation and Fabrication of Differentiated Fiber Composite Building Components"; in the Proceedings for the Advances in Architectural Geometry 2014 Conference, London.
- 2014 Dörstelmann, M., Parascho, S., Prado, M., Menges, A. and Knippers, J.: 2014, Integrative computational design methodologies for modular architectural fiber composite morphologies. In Design Agency [Proceedings of the 34th Annual ACADIA Conference], Los Angeles, pp. 177–188. (ISBN 9781926724478)
- 2014 Yunis, L., Kyjánek, o., Dörstelmann, M., Prado, M., and Menges, A.: 2014, Bio-inspired and fabrication-informed design strategies for modular fibrous structures in architecture, Thompson, Emine Mine (ed.), Fusion – Proceedings of the 32nd eCAADe Conference – Volume 1, Department of Architecture and Built Environment, Newcastle upon Tyne, England, UK, 10-12 Sept. 2014, pp. 423-432.
- 2014 Kuma, T., Dörstelmann, M., Prado, M. and Menges, A.: 2014, Integrative Computational Design Methodology for Composite Spacer Fabric Architecture, Thompson, Emine Mine (ed.), Fusion – Proceedings of the 32nd eCAADe Conference – Volume 2, Department of Architecture and Built Environment, Newcastle upon Tyne, England, UK, 10-12 Sept. 2014, pp. 61-69.

SELECTED PUBLICATION OF WORK

- 2016 Korbmacher, T. : 2016, Images Publishing, bmxRider, No. 21, Jan. 2016, pp. 66-67, cover.
- 2015 Stephan, P.: 2015, Liebe Bedenkenfrage: Forschungs-Pavillon , AIT, August, p 14.
- 2015 Menges, A.: 2015, Form und Findung, in Bauwelt, No. 20.2015, Bauverlag BV GmbH, pp.30-33. (ISSN 0005-6855)
- 2015 Markillie. P. :2015, Knit me a car: Technology Quarterly on New Materials, in The Economist, December 5th- 11th p 13.
- 2015 Hottmann, A.: 2015, Die natur als vorbild , deutsch bauzeitung, 09/2015, p. 7. (ISSN: 0721- 1902)
- 2015 Seon-min, Y.: 2015, ICD/ ITKE Research Pavilion 2014- 15 , Architecture and Culture, no. 412., September pp 34 – 37. (ISSN: 1227- 0903).
- 2015 Welbergen, C. :2015, Architektur frei nach der nature, Domus, November/ December 2015, pp. 130 -131.(ISSN 2195 – 7681)
- 2015 Bauer, R. :2015, ICD/ ITKE Research Pavilion Stuttgart , Bauwelt Vol. 106, No. 30/2015, Bauverlag BV GmbH, pp 33.(ISSN: 0005-6855)
- 2015 Mika, O. :2015, Experimentalni pavilion z EDFE membrany vyzuzene uhlikovymi , Materialy pro stavbu, July 2015, pp 48 – 49.
- 2015 Waltraut, H., Gruber, P. :2015, Plan Not to Plan Anymore — on Growing and Building, in Imhof, B., Gruber, P. (eds.), Built to Grow-Blending Architecture and Biology, pp. 31. (ISBN 978-3035609202)
- 2015 Sayah, A.: 2015, Mach es wie die Wasserspinne, in Stuttgarter Zeitung, No. 189, 18 August 2015, p. 27
- 2015 Hubert. R., Ohlhorst, F.: 2015, Carbon-Kanon: Fasern aus Kohlenstoff erobern die Designszene, in Places of Spirit, Feb./Mar., Germany, pp.32-37.
- 2015 Naboni, R., & Paoletti, I.: 2014. Advanced Customization in Architectural Design and Construction. PoliMI Springer Briefs,pp.46-48.
- 2014 Paunescu, I.: 2014, Networks, in Igloo: Habitat & Architecture, Nov., Romania, pp. 114-119.
- 2014 Reischer, P.: 2014, Temporäre Bauten, in Architektur Fachmagazin, No. 6 Sep./Oct. , Austria, pp. 80-83.(ISSN 1606-4550)
- 2014 Shim, J.M.: 2014, Gradually Embracing Digital Fabrication Demanded by the Times, in Space: Envisaging the Reality of Digital Fabrication, No. 562 Sept., South Korea, pp. 54-71. (ISSN: 1228-2472)
- 2014 Hübener, S.: 2014, Käferschale Schützt Menschen, in TECH21: Schweizerische Bauzeitung, No. 34 Aug., Switzerland, pp. 30-33.
- 2014 Geyer, H.H, Mayer-Grenu, A.: 2014, Inspiriert und inspirierend, in Forschung Leben: Wissenschaft und Geld, Mar., Germany, pp. 22-43.
- 2014 Gerrber, D. & Ibañez, M. (2014). Paradigms in Computing Making, Machines, and Models for Design Agency in Architecture. Evolo.
- 2014 Heung Chae, J.: 2014, ICD/ITKE Research Pavilion 2013-14, in DETAILS, No. 37, A&C Publishing Co., Ltd., Seoul, Korea, pp. 170-173. (ISBN: 978-89-7212-155-8)
- 2012 Menges, Achim. "Material Resourcefulness: Activating Material Information in Computational Design." AD Material Computation: Higher Integration in Morphogenic Design (02/2012): 34-43.
- 2012 Hong, John. "Simulating interdependent complexity: Beyond Prescriptive Zoning." Schröpfer, Thomas, and Hee Limin. Ecological urban architecture : qualitative approaches to sustainability. Basel: Birkhäuser Verlag, 2012. Print.
- 2012 Oxman, Neri. “Programming Matter.” AD Material Computation: Higher Integration in Morphogenic Design (02/2012): 88-95.

SELECTED EXHIBITION OF WORK

2017	Partial Display of the Elytra Filament Pavilion, Exhibition "Imprimer le monde", Centre Pompidou, Paris
2017	Elytra Filament Pavilion, Vitra Museum, Weil am Rhein
2017	IGA Berlin 2017, ICD/ITE Research Pavilion 2013-14
2017	ICD/ITKE Research Pavilion 2013-14, Design Society / V&A Shenzhen, China
2016	European Space Research and Technology Center, Noordwijk, Netherlands
2016	National Textile and Industry Museum, Ausburg
2016	Elytra Filament Pavilion, Victoria and Albert Museum, London
2016	NordBat 2016, Grand Palais, Lille, France
2015	Synthetic Exhibition, Esba TALM, Le Mans, France
2015	Tallinn Architecture Biennale, Tallinn
2015	Composites Europe Fair, Stuttgart
2015	Research and Technology Fair, Hannover
2015	Shanghai Architectural Biennale
2014	Composites Europe Fair, Stuttgart
2014	Fiber Syntax Workshop: RobArch 2014 Conference
2013	Composites Europe Fair, Stuttgart
2013	Modular composite building system for the German Reunification Day, Stuttgart
2012	"Platform 4" gallery exhibition. Harvard University Graduate School of Design
2011	"Studioless" gallery exhibition: Harvard University Graduate School of Design
2011	"Making Things" exhibition: Harvard University Graduate School of Design
2010	"The Expocátedra: La geometría en la cerámica" exhibition: Colegio Oficial de Arquitectos de Madrid.
2010	"The Digital Craft" gallery exhibition: Harvard University Graduate School of Design.