

**Debora Verniz**  
**Curriculum Vitae | Spring 2022**

**GENERAL INFORMATION**

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Professional address: 139, Stanley Hall, Columbia MO. 65201.

**EDUCATION**

**2020. Ph.D.**

*Architecture* (cluster: Design and Computing)

2015-2017. Lisbon School of Architecture (transferred).

2017-2020. The Pennsylvania State University.

Dissertation committee: José Pinto Duarte (advisor), Loukas Kalisperis, Mallika Bose, Esther

Obonyo, Luis Mateus (University of Lisbon, Portugal), and Maria Angela Dias (Federal University of Rio de Janeiro, Brazil).

**2012. Master of Science**

*Architecture, Urbanism, and Technology*

University of São Paulo (Brazil).

Advisor: Marcio Minto Fabrício.

**2009. Bachelor**

*Architecture and Urbanism*

University of São Paulo (Brazil).

**PUBLICATIONS**

**Theses**

Verniz, Debora. **2020**. *Understanding the genesis of form in Brazilian informal settlements: towards a grammar-based approach for planning favela-like settlements in steep terrains in Rio de Janeiro*. (Ph.D. dissertation). Pennsylvania State University.

Verniz, Debora. **2012**. *Building industrialization: A case study in hospitals*. (M.S. thesis). University of São Paulo. Verniz, Debora. 2009. *Communitarian center – Jardim Pacaembu*. (Bachelor thesis). University of São Paulo.

**Journal Papers**

Verniz, Debora; Duarte José P. **2022 (in press)**. Expanded Favela Urban Grammar: a computational framework to plan housing settlements. *IMG Journal – issue05 – Imaging peripheries*.

Verniz, Debora; Lima, Fernando T.; Duarte, José P. **2022**. Decoding and recoding informal settlements in a design studio: an overview of the World Studio Project. *Gestão & Tecnologia de Projetos* (Design Management and Technology). São Carlos, v17, n1, 2022. <https://doi.org/10.11606/gtp.v17i1.184152>

Oprean, Daniele; Verniz, Debora; Duarte, Jose; Zhao, Jiayang; Wallgrün, Jan Oliver; Baird, Tim and Klippel, Alexander. **2021**. Conceptualizing the remote site visit: Unveiling the Santa Marta informal settlement in Rio through immersive technology. *Landscape Journal*. January 1, 2021 vol. 39 no. 2 31-49. <https://doi.org/10.3368/wplj.39.2>.

Verniz, Debora & Duarte, José P. **2020**. Santa Marta urban grammar: unraveling the spontaneous occupation of Brazilian informal settlements. *Environmental and Planning B: Urban Analytics and City Science*. 0 (0) 1-18 (online first version). DOI: <https://doi.org/10.1177/2399808319897625>

### Papers in International Peer Review Conferences

Verniz, Debora; Duarte José P. **2021**. Assessing Santa Marta: using evaluation tools to inform parametric urban design. In: Gomes, P.; Braida, F. *SiGraDI 2021 Designing possibilities, ubiquitous conference*. XXV International Conference of the Ibero-American Society of Digital Graphics. November 8-12, 2021. Georgia Tech, College of Design, Atlanta, GA: Blucher 749-758

Verniz, Debora; Duarte, José P. **2020**. From analysis to design: a framework to develop synthetic shape grammars. In: Werner, L and Koering, D (eds.), *Anthropologic: Architecture and Fabrication in the cognitive age - Proceedings of the 38th eCAADe Conference - Volume 2*, TU Berlin, Berlin, Germany, 16-18 September 2020, pp. 535-544 [http://papers.cumincad.org/cgi-bin/works/Show?ecaade2020\\_534](http://papers.cumincad.org/cgi-bin/works/Show?ecaade2020_534)

Castro e Costa, Eduardo; Verniz, Debora; Varashteh, Siavash; Miller, Marc; Duarte, Jose. **2019**. Implementing the Santa Marta Urban Grammar. A pedagogical tool for design computing in architecture. In: Sousa, JP, Xavier, JP and Castro Henriques, G (eds.), *Architecture in the Age of the 4th Industrial Revolution - Proceedings of the 37th eCAADe and 23rd SIGraDi Conference - Volume 2*, University of Porto, Porto, Portugal, 11-13 September 2019, pp. 349-358 [http://papers.cumincad.org/cgi-bin/works/Show?ecaadesigradi2019\\_146](http://papers.cumincad.org/cgi-bin/works/Show?ecaadesigradi2019_146)

Verniz, Debora; Oprean, Daniele; Duarte, Jose. **2018**. Understanding the Genesis of Form in Brazilian Informal Settlements: Modelling the Environment as a Preliminary Approach to Design. In: SIGraDi 2018 [*Proceedings of the 22nd Conference of the Iberoamerican Society of Digital Graphics - ISSN: 2318-6968*] Brazil, São Carlos 7 - 9 November 2018, pp. 552-559 [http://papers.cumincad.org/cgi-bin/works/Show?sigradi2018\\_1475](http://papers.cumincad.org/cgi-bin/works/Show?sigradi2018_1475)

Oprean, Danielle; Verniz, Debora; Zhao, Jiayang; Wallgrün, Jan Oliver; Duarte, José P. and Klippel, Alexander. **2018**. Remote Studio Site Experiences: Investigating the Potential to Develop the Immersive Site Visit. In: T. Fukuda, W. Huang, P. Janssen, K. Crolla, S. Alhadidi (eds.), *Learning, Adapting and Prototyping - Proceedings of the 23rd CAADRIA Conference - Volume 1*, Tsinghua University, Beijing, China, May, 17-19, 2018, pp. 421- 430

- Oprean D., Wallgrün J.O., Pinto Duarte J.M., Verniz D., Zhao J., Klippel A. **2018**. Developing and Evaluating VR Field Trips. In: Fogliaroni P., Ballatore A., Clementini E. (eds) *Proceedings of Workshops and Posters at the 13th International Conference on Spatial Information Theory (COSIT 2017)*. COSIT 2017. Lecture Notes in Geoinformation and Cartography. Springer, Cham.
- Verniz, Debora; Duarte, Jose. **2017**. Santa Marta Urban Grammar - Towards an understanding of the genesis of form. In: Fioravanti, A, Cursi, S, Elahmar, S, Gargaro, S, Loffreda, G, Novembri, G, Trento, A (eds.), ShoCK! - Sharing Computational Knowledge! - *Proceedings of the 35th eCAADe Conference - Volume 2*, Sapienza University of Rome, Rome, Italy, September, 20-22, 2017, pp. 477-484 [http://papers.cumincad.org/cgi-bin/works/Show?ecaade2017\\_264](http://papers.cumincad.org/cgi-bin/works/Show?ecaade2017_264)
- Verniz, Debora; Mateus, Luis; Duarte, Jose; Ferreira, Victor. **2016**. 3D Reconstruction Survey of Complex Informal Settlements. In: Herneoja, Aulikki; Toni Österlund and Piia Markkanen (eds.), Complexity & Simplicity - *Proceedings of the 34th eCAADe Conference - Volume 2*, University of Oulu, Oulu, Finland, August, 22-26, 2016, pp. 365-370 [http://papers.cumincad.org/cgi-bin/works/Show?ecaade2016\\_110](http://papers.cumincad.org/cgi-bin/works/Show?ecaade2016_110)
- Verniz Pereira, Debora; Fabricio, Marcio. **2014**. Applying pre-casting and mass customization in the Hospital Escola Municipal de São Carlos. In: *Zero Energy Mass Custom Homes - ZEMCH*, June, 4-6, 2014, Londrina - PR. Proceedings of Zero Energy Mass Custom Homes - ZEMCH.
- Verniz Pereira, Debora; Fabricio, Marcio. **2011**. Industrialização das construções: análise de obra hospitalar (Building industrialization: analysis of a hospital construction) In: *Simpósio Brasileiro de Gestão e Economia da Construção - SIBRAGEC*, 2011, Belém-PA. Simpósio Brasileiro de Gestão e Economia da Construção - SIBRAGEC - Anais.

### Abstracts in International Peer Review Conferences

- Verniz, Debora; Dias, Antonio Alves. **2009**. Modelos de estruturas de madeira em casca para coberturas (Wooden shell structure models). In: *XVII Simpósio Internacional de Iniciação Científica - SIICUSP*, 2009, São Carlos.
- Verniz, Debora. **2008**. Estudo de estruturas de madeira em casca para coberturas (Studying Wooden shell roofing structures) In: *16º Simpósio Internacional de Iniciação Científica - SIICUSP*, 2008, São Paulo.

### Papers in submission

- Santos, Deborah; Verniz, Debora; Pontes, Thiago. 3D printed mask chain: an alternative strategy for respiratory pandemics' prevention. (**Manuscript in preparation**).
- Verniz Debora. Using analysis of climate data to inform parametric design: The case of Santa Marta favela. *eCAADe 2022 conference*. (**Abstract submitted, waiting for a committee decision**).

## **AWARDS AND HONORS**

**2022**

### **Enhancing Student Success at Mizzou**

An institutional award focused on supporting efforts that enhance teaching and learning. Proposal sent together with Lyria Bartlett and Bimal Balakrishnan. Total award: \$75,000.00

**2020**

### **Alumni Association Dissertation Award**

This award is considered to be among the most prestigious available to Penn State graduate students and recognizes outstanding achievement in scholarship and professional accomplishment.

**2017**

### **J. Henry and Minnie Hitz Memorial Endowment in Architecture**

Presented by J. Henry Hitz ('28 B.S. Arch. Engineering) and his wife, Minnie Hitz, to provide program support for the architecture study abroad program and for school projects emphasizing creative design solutions.

## **GRANTS AND FELLOWSHIPS**

**2018-2019**

*Graduate Assistantship.* College of Arts and Architecture. Pennsylvania State University.

**2015-2018**

*PhD Grant.* National Counsel of Technological and Scientific Development – CNPq, Brazil. Program: Science Without Borders.

**2010-2011**

*Master's Grant.* São Paulo Research Foundation (FAPESP).

**2010**

*Master's Grant.* Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

**2008-2009**

*Scholarship for Undergraduate Researcher.* São Paulo Research Foundation (FAPESP).

## **INVITED TALKS**

**2020**

Verniz, Debora. A framework for urban planning and intervention in Brazilian favelas. *Digital Futures talk Brazil.* September 2021,

**2016**

Verniz, Debora. Understanding the urban structures of informal settlements: combining techniques of 3D reconstruction and shape grammar. *Institute for Development of New Technologies* (UNINOVA), Caparica, Portugal. April, 21, 2016.

## **CONFERENCE ACTIVITY AND PARTICIPATION**

### **Member of Scientific Committee**

Gomes, P.; Braida, F. (org) SiGraDI 2021 *Designing possibilities, ubiquitous conference.* XXV International Conference of the Ibero-American Society of Digital Graphics. November 8-12, 2021. Georgia Tech, College of Design, Atlanta, GA.

Jaramillo, J. R.; Torreblanca-Díaz D. A. (org) *SIGraDi 2020 Transformative Design online conference*. 24th Conference of the Iberoamerican Society of Digital Graphics. November 18-20 2020.

### **Conferences/Symposia Organized**

Pena, Elena Vazquez; Diarte, Julio; Hadighi, Mahyar; Verniz, Debora; Tebyanian, Nastaran. GRID Symposium. March 20-21, 2019. Stuckeman School, Pennsylvania State University, United States of America.

Castral, Paulo; Vizioli, Simone; Verniz, Debora. Colóquio Internacional: Desenho + Projeto, (Internacional Colloquium: Design+Project) March 20 - 21, 2013. São Carlos School of Engineering, University of São Paulo, Brazil.

Sichieri, Eduvaldo; Pejon, Osni; Verniz, Debora. Terceiro Workshop do PAE no Campus de São Carlos (Third PAE workshop in São Carlos). August 14th, 2013. São Carlos School of Engineering, University of São Paulo, Brazil

Ramalhoso, Wellington; Verniz, Debora; Nogueira, Josiane. Café com Pesquisa, 2011. (Monthly presentation on post-graduate researches during the academic year organized, presented and attended by post-graduate students to discuss their researches). Institute of Architecture and Urbanism, University of São Paulo, Brazil.

Pavesi, Lorenza; Ramalhoso, Wellington; Lukiantchuky, Marieli; Oliveira, Marina; Verniz, Debora. Café com Pesquisa, 2010. (Monthly presentation on post-graduate researches during the academic year organized, presented and attended by post-graduate students to discuss their researches). Institute of Architecture and Urbanism, University of São Paulo, Brazil.

### **Papers Presented**

Verniz, Debora. Assessing Santa Marta: using evaluation tools to inform parametric urban design. 25<sup>th</sup> SiGraDi conference. November 8-12, 2021.

Verniz, Debora. From analysis to design: a framework to develop synthetic shape grammars. 38th eCAADe Conference. September 16-18, 2020.

Verniz, Debora. Understanding the Genesis of Form in Brazilian Informal Settlements: Modelling the Environment as a Preliminary Approach to Design. XXII Conference of the Iberoamerican Society of Digital Graphics. November, 7-9, 2018.

Verniz, Debora. Santa Marta Urban Grammar - Towards an understanding of the genesis of form. 35th eCAADe Conference, September 20-22, 2017.

Verniz, Debora. 3D Reconstruction Survey of Complex Informal Settlements. 34th eCAADe Conference. August 22-26, 2016.

Verniz, Debora. The Brazilian Self-Produced City: Santa Marta Slum. Spaces and Flows: Seventh International Conference on Urban and ExtraUrban Studies and the Spaces and Flows knowledge community, November 10-11, 2016.

Verniz Pereira, Debora; Fabricio, Marcio. Applying pre-casting and mass customization in the Hospital Escola Municipal de São Carlos. Zero Energy Mass Custom Homes - ZEMCH, June 4-6, 2014.

### **TEACHING EXPERIENCE**

#### **2021- Present**

*Assistant Professor*. Department of Architectural Studies. College of Arts and Science, University of Missouri. Courses:

**Design Communication I (2230)**. (Spring 2022, 2<sup>nd</sup> year)

This course introduces digital media tools for design visualization, ideation, and presentation, providing students with an understanding of techniques and conventions of design representation. It emphasizes underlying concepts and techniques of computer applications for design and builds on traditional media skills.

**Design Studio II (3182).** (Spring 2022, 2<sup>nd</sup> year)

Application of basic design principles to built forms and functional spaces. Identification and manipulation of elements of design, understanding spatial relationships between the human body and spatial enclosures related to built forms. Spatial organization and familiarity with the role of the immediate context.

**Design Studio III (4823-01; 4813-02/4823-02).** (Fall 2021, 3<sup>rd</sup> year)

The goal of this studio is to teach students how to be independent designers and thinkers who can develop, discuss and present their ideas completely and coherently.

**2017-2019**

*Teaching Assistant.*

College of Arts and Architecture. Pennsylvania State University. Courses:

**The Rio Studio (2017, 2018, 2019).** Design studio. Students developed a design intervention in a Brazilian informal settlement.

**2014**

*Adjunct Professor.* Centro Universitário de Araras Dr. Edmundo Ulson-UNAR, Araras, Brazil.

Courses:

**Environmental Comfort I** (2014, 4th year)

Contents: Natural and mechanical ventilation in buildings, natural ventilation in urban environments, proper building insulation according with national normative (NBR15520) for Brazilian regions.

**Environmental Comfort II** (2014, 4th year)

Contents: Daylighting, lighting design and building acoustics.

**Social and Economy Studies** (2014, 2nd year)

Contents: The development of informal settlements scenario and affordable housing production in Brazil.

**Building Technology II** (2014, 3rd year)

Contents: Traditional (Brazilian) building techniques: masonry, reinforced concrete, building installations, roofing materials and techniques. Construction techniques and design detailing.

**Building Technology III** (2014, 3rd year)

Contents: Building techniques: steel-frame and wooden-frame. BIM. Construction techniques and design detailing.

**Final Design Project Prep.** (2014, 5th year)

Advising students for the development of their final design projects (*thesis*).

Advisees: Luiza Barboza Pacagnella. *Sustainable Affordable Housing*. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2014. Role: Advisor. Final Grade: 8.5/10.

Andréa Cristina Bonfim. *Women's Hospital*. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2014. Role: Advisor. Final Grade: 10/10.

## **RESEARCH EXPERIENCE**

### **2016-2019**

Decoding and recoding informal settlements: using technology to support social integration.

PI: Jose Pinto Duarte Pennsylvania State University 2015–2020 Understanding the genesis of form in Brazilian informal settlements: a grammar-based approach for planning favelas extensions in steep terrains in Rio de Janeiro.

Role: PhD candidate. Advisor: Jose P. Duarte. University of Lisbon (former) and Pennsylvania State University.

### **2010-2012**

Building industrialization: A case study in hospitals.

Role: Master student. Advisor: Marcio M. Fabricio. University of São Paulo, Brazil.

### **2008-2009**

Studying wooden shell structures.

Role: Undergraduate research assistant. Advisor: Antonio A. Dias. University of São Paulo, Brazil.

## **ACADEMIC SERVICE**

### **2018-2019**

GRID – Graduate Research and Innovative Design, Pennsylvania State University.

Role: Secretary. GRID association seeks to provide design research support to undergraduate and graduate students of the College of Arts and Architecture at Penn State.

### **Bachelor's Thesis Defenses (Committee)**

*Sustainable Affordable Housing*, Luiza Barboza Pacagnella. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2014.

*Women's Hospital*, Andréa Cristina Bonfim. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2014.

*Student Housing*, Thiago Jorge. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2014.

*Hotel and Conference Centre in Piracicaba*, Mariane Zanatta. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2013.

*Equestrian Center*, Paloma Barreto Mourão Vetorazzi. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2013.

*Intervention at Zurita Avenue*, Fernanda Metzker. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2013.

*Exposition Complex*, Marina Romani. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2013.

*Urban mobility plan*, Paulo Roberto Moraes Severino. Program in Architecture and Urbanism, Centro Universitário de Araras Dr. Edmundo Ulson, Araras, Brazil. December 2013.

## **COMMUNITY INVOLVMENT/OUTREACH**

### **2018-2019**

LAGRASA – Latin American Graduate Student Association, The Pennsylvania State University. Role: Secretary. LAGRASA is a graduate student association that promotes the Latin American culture and identity in Penn State’s community.

## **MEDIA COVERAGE**

Frances Jones. **2021**. “Rocinha 3D”. Revista FAPESP. September 14th 2021.

<https://revistapesquisa.fapesp.br/rocinha-em-tres-dimensoes/>

Belkin, Douglas. **2018**. “At Penn State, Field Trips Go Virtual. As more scholars adopt virtual reality, students can visit an ancient Mayan village or an inside of a volcano”. The Wall Street Journal. November, 21, 2018. <https://www.wsj.com/articles/at-penn-state-field-trips-go-virtual1542796201?mod=searchresults&page=1&pos=3>

Mortice, Zach. **2017**. “Favela Real”. Landscape Architecture Magazine. December, 12, 2017.

<https://landscapearchitecturemagazine.org/2017/12/12/favela-real/>

Pacchioli, David. **2017**. “Flying down to Rio. Students use digital technology to explore design solutions for Brazilian favela”. Penn State News. September, 05, 2017.

<https://news.psu.edu/story/479590/2017/09/05/research/flying-down-rio>

## **RELATED PROFESSIONAL SKILLS**

Phyton Script

AutoCad

Rinoceros (including digital fabrication)

Grasshopper 3D

ArcGIS

QGIS 3D scanning and photogrammetry techniques (including softwares: Visual SFM, MeshLab, Photoscan, and Pix4D)

Adobe Creative (Photoshop, Indesign, Illustrator, and Premiere)

Microsoft Office (Word, Excell, Powerpoint, etc.)

## **NON-ACADEMIC WORK**

### **IN THE FIELD**

#### **2009-2010**

*Architectural Internship/ Junior Architect*

Gisele Terra Lustre Office (Brazil)



## **ADMINISTRATIVE**

### **2011-2015**

*Administrative Staff.*

University of Sao Paulo, Sao Paulo (Brazil). Role: International Relations Advisor. Stablishing cooperation with graduate and undergraduate programs to celebrate academic agreements for student exchanges and professional internships.

### **2010-2012**

*Administrative staff.*

GTP – Gestão & Tecnologias de Projetos (Design Management and Technology) [ISSN 1981- 1543]

Role: responsible to receive submissions, forward them to peer reviewers, format accepted papers to proper layout, attribute the DOI number, and finish the journal publication in an OJS system.

## **TEACHING AREAS, COURSES PREPARED TO TEACH**

Design Computing courses

Construction Technologies

Design studios

## **LANGUAGES**

Portuguese (native)

English (professional work)

Spanish (limited)

Italian (elementary)

French (elementary)

## **PROFESSIONAL MEMBERSHIPS OR AFFILIATION**

### **2014-Present**

CAU/BR – Conselho de Arquitetura e Urbanismo do Brasil (Brazilian Council of Architecture and Urbanism)