



# DR. MARINA MULLER

## CONTACT INFO

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## LANGUAGE SKILLS

Portuguese - Native Speaker.

English – Fluent (TOEFL certified).

Spanish – Basic.

## ADDITIONAL EDUCATION

**Content and language integrated learning** (20h) – UNISINOS, Brazil - 2020

**English as a Medium of Instruction** Training for University Lecturers (40h). University of Oxford, OX, England and UFPR, Brazil – 2016.

**Pedagogical Training for Teachers** (40h) - Pontifical Catholic University of Paraná, PUC/PR, Brazil. – 2012.

**Teacher's Training Course** (87h). Phil Young's English School, Brazil - 2007

## COMPUTER SKILLS

Revit	*****
Navisworks	***
TQS	***
MS Office	****
Protegé	***
Blackboard	****
Canvas	***

## TEACHING METHODS SKILLS

Synchronous Online Classes	*****
Online Classes Assíncronas	****
Project-Based Learning	***
Assessment methods	****
Classroom dynamics	*****

## AWARDS

Dr. Muller is currently a visiting scholar at the Rinker School of Construction Management, University of Florida (UF). She has been teaching at the Pontifical Catholic University of Paraná (PUCPR) since 2011, where she currently is an assistant professor. She has experience teaching Building Information Modeling (BIM), cast-in-place concrete structures, vector mechanics and construction practices for the undergraduate civil engineering course and post-graduate construction management programs. She also is part of the Global classes program, where she teaches BIM for international classes. She is likewise a temporary professor at Pontifical Catholic University of Minas Gerais (PUCminas), teaching bridges design, and Harbors and waterways at the BIM infrastructure post-graduate program.

She obtained her Phd at PUCPR, in the Industrial Systems Engineering Post-Graduation Program (PPGEPS), where she developed a research in Green BIM interoperability for cast-in-place concrete structures (2020). Before that she obtained her master's degree at the Post-Graduate Program in Construction Engineering at the Federal University of Paraná (PPGCC-UFPR) in 2011. She graduated as a civil engineer in UFPR as well (2008).

Her main research area is BIM interoperability, where she explores interoperability for sustainability and structural design, as well as processes models and ontologies. Her second research field is BIM in education.

## EDUCATION

**DOCTORATE DEGREE** (2016-2020) – System and Production Engineering Postgraduate Program, PUCPR, Brazil. INTEROPERABILITY FOR SUSTAINABILITY IN THE CONSTRUCTION INDUSTRY – A BIM BASED FRAMEWORK. Advisors: Eduardo de Freitas Rocha Loures & Osiris Canciglieri Jr

**MASTERS DEGREE** (2009-2011) - Construction Postgraduate Program. UFPR, Brazil. INTEROPERABILITY OF CAST-IN PLACE CONCRETE STRUCTURES DESIGN SYSTEMS BASED ON IFC FILES. Advisor: Sérgio Scheer.

**BACHELOR'S DEGREE** (2003-2008) - Civil Engineering, UFPR, Brazil.

## PROFESSIONAL EXPERIENCE

**FLORIDA GULF COAST UNIVERSITY** - Visiting faculty (Aug 7, 2022 - May 9, 2023) Assistant Professor in the Department of Construction Management - Teaching, at both undergraduate and graduate levels, as applicable; course and/or curriculum development; research/scholarship and/or professional development; involvement on College and University committees and/or initiatives;

**UNIVERSITY OF FLORIDA (BRAZIL)** - Visiting Scholar (2021- Currently)

**Developing research in:** Developing research in BIM interoperability and data structuring through ontologies for bridges and concrete structures.

**PONTIFICAL CATHOLIC UNIVERSITY OF PARANÁ (BRAZIL)** - Assistant Professor on Leave (2011- Now)

**Teaching in undergraduate courses the following subjects:** Building Information Modeling; Cast-in-place concrete structures; Vector mechanics; Construction practices. (Civil Engineering and Architecture courses)

**Teaching in post-graduate courses the following subjects:** Building Information modeling; Clash detection. (Construction Management and Structural Design courses)

Award of excellence in teaching PUCPR - 2019.

Award of excellence in teaching PUCPR - 2020.

#### **VOLUNTEER WORK AND PERSONAL PROJECTS**

Self-defense lessons for women;

Student mentorship;

English-Portuguese translations in community events;

Youtube channel to support student improvement: [Academic world](#)

**Advising:** For Undergraduate Conclusion projects, Graduate Conclusion Projects and Tutoring Programs.

**Other projects:** Supporting internationalization in the university, teaching in the Global classes program. In the global classes program, subjects are taught in English for exchange and local students.

PONTIFICAL CATHOLIC UNIVERSITY OF MINAS GERAIS (BRAZIL) - Adjunct Professor (2021-2022)

**Online Teaching in post-graduate courses the following subjects:** BIM for Bridge design; BIM for waterways and harbors; BIM for airport design. (BIM for infrastructure graduate course)

IDD ADVANCED EDUCATION (BRAZIL) (2021-2022)

**Online Teaching in post-graduate courses the following subjects:** BIM for construction management and Sustainable constructions

#### **OTHER ACTIVITIES**

**Além do papel (2003 – summer job)** Salesperson in an office supplies store.

**Legacy English School (2008-2010)** - Teaching English as a Second language.

**Consulting (2008-2022)** - Working as a self-employed consultant for structural design and BIM adoption in different Brazilian companies.

#### **RESEARCH PROJECTS**

**Building Information Modeling (BIM) for Bridges and Structures** - Department of Transportation Pooled Fund, Developing resources for BIM for bridges, including the development of a Data Dictionary Development. Rinker School of Construction Management, UF. Coordinator: Prof. Dr Aaron Costin.

Role: Structuring the Data dictionary into an ontology format.

Personal annual rate: \$2267.28

**Building Information Modeling (BIM) - Framework I2PDS (Interoperability, Information, Process, Decision, Sustainability) – PPGEPS - PUCPR, Brazil.** Coordinator: Prof. Dr. Eduardo Rocha Loures.

Not funded/voluntary. 2016- Current.

**AccessiBIMlity Project – BIM -based, 3D printing and tactile maps to promote accessibility for people with visual impairment or blindness.** Coordinator: Prof. Dr. Marina Muller.

Not funded/voluntary. 2022 – current.

#### **PUBLICATIONS**

##### **Scientific Journal Papers**

MULLER, MARINA FIGUEIREDO; ESMANIOTO, FILIPE ; HUBER, NATAN ; LOURES, EDUARDO ROCHA ; JUNIOR, OSIRIS CANGIOLIERI . A Systematic Literature Review of Interoperability in the Green Building Information Modeling Lifecycle. JOURNAL OF CLEANER PRODUCTION, v. 223, p. 397-412, 2019.

SALSA, T. O. ; FELTRIN, C. F. ; MULLER, M. F. ; ESMANIOTO, FILIPE ; HUBER, NATAN . APLICATIVO DIDÁTICO DE DIMENSIONAMENTO DE ARMADURAS EM ESTRUTURAS DE CONCRETO ARMADO. REVISTA TÉCNICO CIENTÍFICA DO CREA-PR, v. 1, p. 1, 2018.

MULLER, MARINA FIGUEIREDO; GARBERS, AMANDA ; ESMANIOTO, FILIPE ; HUBER, NATAN ; LOURES, EDUARDO ROCHA ; CANGIOLIERI, OSIRIS . Data interoperability assessment through IFC for BIM in structural design - a five-year gap analysis. Journal of Civil Engineering and Management, v. 23, p. 943-954, 2017.

FREITAS, M. C. D. ; MULLER, M. F. ; Scheer, S. . Ensino de projeto de produto / Arquitetura - Dinamica rex. Revista Argentina de Enseñanza de la Ingeniería, v. 1, p. 47-54, 2012.

##### **Conference Publications**

MULLER, M. F.; LOURES, EDUARDO ROCHA ; MENDES JUNIOR, R. ; CANGIOLIERI, O. ; FREITAS, M. C. D. ; FREDERICO, G. . Developing BIM Culture in a University. Past and Future Steps.. In: Borsato, M., Wognum, N., Peruzzini, M., Stjepandić, J. , Verhagen, W.J.C..

(Org.). (Org.). TRANSDISCIPLINARY ENGINEERING: CROSSING BOUNDARIES. 1ed.: , 2016, v. 4, p. 358-367.

MULLER, M. F.; IBRAHIM, L. ; VENTURINI, M. ; LOURES, E.R. . Online Teaching of BIM During the Covid-19 Pandemic. In: i3CE 2021 ? IT for Smart Infrastructure and Communities, 2021, orlando. Anais liberados em may 2022, 2021.

FERRAZ, C. ; NEGREIRO, D. F. ; MULLER, M. F. ; LOURES, E.R. ; DESCHAMPS, F. . INTERAÇÃO DAS ESTRATÉGIAS DO BIM E LEAN CONSTRUCTION SOB A PERSPECTIVA DE PROCESSO, POLÍTICA E TECNOLOGIA. In: XXVI SIMPEP DESAFIOS DA ENGENHARIA DE PRODUÇÃO NO CONTEXTO DA INDÚSTRIA 4.0, 2019. ANAIS XXVI SIMPEP DESAFIOS DA ENGENHARIA DE PRODUÇÃO NO CONTEXTO DA INDÚSTRIA 4.0, 2019.

MULLER, M. F.; LOURES, E.R. ; MENDES JUNIOR, R. ; CANGIOLIERI. O. ; FREITAS, M.C.D., ; FREDERICO, G. F. . Developing BIM Culture in a University - Past and Future Steps. In: ISPE International Conference on Transdisciplinary Engineering, 2016, Curitiba. Advances in Transdisciplinary Engineering, 2016. v. 4.

MULLER, M. F.; LOURES, E.R. ; CANGIOLIERI. O. . Interoperability Assessment for Building Information Modelling. In: 5th International Conference on Structures and Building Materials (ICSBM 2015), 2015, Shenzhen. 5th International Conference on Structures and Building Materials (ICSBM 2015), 2015.

SCHEER, S ; MULLER, M. F. ; AYRES FILHO, C. . A modeling level-oriented approach for Building Information Modeling.. In: International Conference on Computing in Civil and Building Engineering (iccbe2010), 2010, Nottingham. International Conference on Computing in Civil and Building Engineering : Nottingham University Press,. Nottingham: Nottingham University Press, 2010. v. 1. p. 1-6.

MULLER, M. F.; HUBER, NATAN ; ESMANIOTO, FILIPE ; LOURES, E.R. ; CANGIOLIERI. O. . Interoperability Framework for Building Information Modeling based on Sustainability. In: 8th International Workshop on Advances in Cleaner Production, 2019, Sanya. 8th International Workshop on Advances in Cleaner Production - proceedings, 2019.

MULLER, M. F.; FREITAS, M.C.D., ; SCHEER, S. . DINÂMICA PARA O ENSINO DOS CONCEITOS DE PROJETO: DO PAPEL AO BIM. In: 6º FÓRUM DE PESQUISA FAU-MACKENZIE, 2010, São Paulo. ANAIS DO 6º FÓRUM DE PESQUISA FAU-MACKENZIE, 2010. v. 1.

#### **Books, Thesis and dissertation**

MULLER, M. F.. Interoperabilidade de sistemas CAD-BIM de projetos estruturais via IFC - Um estudo para concreto armado, Novas edições acadêmicas 1. ed. , 2017.

INTEROPERABILITY FOR SUSTAINABILITY IN THE CONSTRUCTION INDUSTRY - A BIM BASED FRAMEWORK, 2020. Ph.D. Dissertation, Advisors: Eduardo de Freitas Rocha Loures and Osiris CANGIOLIERI. Doutorado em Engenharia de Produção e Sistemas, Pontifícia Universidade Católica do Paraná, PUC/PR, Brasil.

A INTEROPERABILIDADE ENTRE SISTEMAS CAD DE PROJETO DE ESTRUTURAS DE CONCRETO ARMADO BASEADA EM ARQUIVOS IFC, 2011. Masters Thesis. Advisor: Sérgio Scheer. Mestrado em Programa de pós graduação em construção civil. Universidade Federal do Paraná, UFPR, Brasil.

***To view the publications visit [linktr.ee/marinafm](http://linktr.ee/marinafm)***