

CV CATHERINE DE WOLF

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EDUCATION

- 2014 – 2017 **Doctor of Philosophy (PhD) in Building Technology**
Dept. of Architecture, Massachusetts Institute of Technology (MIT; Boston, US)
- Visiting researcher at University of Cambridge, January – August 2016
 - *Dissertation:* Low carbon pathways for structural design – Embodied life cycle impact of building structures
 - *Advisor:* Prof. John Ochsendorf
- 2012 – 2014 **Master of Science Building Technology**
Dept. of Architecture, MIT (Boston, US)
- *GPA* 5.0 / 5.0, Master of Science, June 2014
 - *Thesis:* Material quantities in building structures and their environmental impact
 - *Advisor:* Prof. John Ochsendorf
- Summer 2013 **Local Economic Development Project South Africa**
Centre for Real Estate, MIT / University of Kwazulu-Natal (Durban, SA)
- *Team:* graduates, postgraduates, professors & entrepreneurs
 - *Summary:* Proposed housing retrofitting in townships
 - *Supervisor:* Prof. John Kennedy
- 2010 – 2012 **Master of Science Civil Engineering & Architecture**
Vrije Universiteit Brussel (VUB) / Université Libre de Bruxelles (ULB; Brussels, BE)
- *Double Diploma with Highest Distinction (summa cum laude)*
 - *Thesis:* Life Cycle Design – How can interactions between buildings, components and materials support design for re-use through sustainable material management?
 - *Advisor:* Prof. Niels De Temmerman
- Summer 2011 **European Summer School on Construction History**
University of Cambridge (Cambridge, UK)
- *Topic:* Conquering new spheres - Two millennia of vaults, domes and shells
 - *Project:* Controversy on the load bearing behaviour of the Risorgimento bridge
 - *Advisor:* Prof. Bernard Espion
- 2007 – 2010 **Bachelor of Science Civil Engineering & Architecture**
VUB / ULB (Brussels, BE)
- *High Distinction (magna cum laude)*
 - *Selected Project 1:* Zero Energy Building technologies, with Jacob Thiry
 - *Selected Project 2:* Compare building physics in two case studies, with Sébastien Wtoreck

RESEARCH EXPERIENCE

- 2017 – 2019 **Low carbon structural design in Structural Xploration Lab (SXL) – smart living lab**
Ecole Polytechnique Fédérale de Lausanne (EPFL; Fribourg, CH)
- Marie Skłodowska-Curie Postdoctoral Fellow & Swiss Government Excellence Scholarship
 - *Summary:* Studied environmental impact of structural design (European Commission)
 - *Supervisors:* Prof. Corentin Fivet

- 2016 – 2018 **Structural Engineers 2050 Commitment**
Carbon Leadership Forum, University of Washington (Seattle, US)
- Committee Member and Founder
 - *Summary:* Leading the initiative to inspire structural engineers to lower their impact
 - *Co-members:* Kathrina Simonen, Amy Hattan, Frances Yang, Duncan Cox

- 2016 **Implementing Whole Life Carbon in Buildings**
University of Cambridge (Cambridge, UK)
- Research Assistant
 - *Summary:* Collaborated with five leading industry practitioners on their carbon assessments
 - *Supervisors:* Dr. Alice Moncaster and Prof. Peter Guthrie

- 2013 – 2015 **Building energy and whole life cycle carbon**
Kuwait Institute for Scientific Research (KISR), Kuwait University (Kuwait City, KW)
- Research Assistant in collaboration between MIT and Kuwait
 - *Summary:* Developed tools to analyse the energy efficiency of buildings and cities
 - *Supervisors:* Prof. Oral Buyukozturk, Prof. John Ochsendorf and Prof. Christoph Reinhart

- 2014 – 2015 **Environmental impact of bridges and other infrastructure projects**
Ney & Partners (Brussels, BE)
- Engineering intern and visiting researcher
 - *Summary:* Compared the embodied carbon of bridges and traffic and maintenance impact
 - *Supervisor:* Kenny Verbeeck

- Summer 2015 **Whole life cycle carbon of environmentally exemplary projects**
Helionix Designs (St Margaret's Bay, UK)
- Consultant engineering intern and visiting researcher
 - *Summary:* Compared the whole life cycle carbon of Helionix buildings
 - *Supervisor:* Marc Carey

- 2014 – 2015 **Material flows of African cities**
MIT (Boston, US) & Stellenbosch University (Stellenbosch, SA)
- Researcher and workshop participant on urban metabolism for African cities
 - *Summary:* Interviewed stakeholders on material flows in African context
 - *Supervisor:* Prof. John Fernández

- 2013 – 2014 **Structural engineering, construction materials, and sustainability database**
Arup (London, UK & San Francisco, US)
- Visiting researcher in Materials Consulting (London) & Structures and Sustainability (San Francisco)
 - *Summary:* Worked with leading designers on embodied carbon in materials and building structures
 - *Supervisor:* Andrea Charlson and Kristian Steele (London) & Frances Yang (San Francisco)

TEACHING & MENTORING EXPERIENCE

Instructor

- 2018 *Class:* Building design in circular economy – EPFL, *School of Architecture, Civil and Environmental Engineering*, 18h
2018 *Class:* Interactive structural design – Nanjing University, *School of Architecture and Urban Planning*, 17h
2018 *Class:* Life Cycle Assessment – EPFL, *School of Architecture, Civil and Environmental Engineering*, 3h
2015 – 2017 *Class:* Environmental Impact Buildings – Université du Littoral, *Master Environmental Management*, 18h

Invited Lecturer

California Polytechnic State University (CalPoly), Stanford, University of California (UC) Berkeley,
Swiss Federal Institute of Technology (ETH) Zurich, MIT

- Fall 2017 *Seminar:* Environmental Structures – CalPoly, *Instructor:* Prof. Edmond Saliklis
Fall 2017 *Seminar:* Low Carbon Pathways for Structural Design – Stanford, *Instructor:* Prof. Michael Lepech
Fall 2017 *Class:* Technologies for Sustainable Societies – UC Berkeley, *Instructor:* Prof. Arpad Horvath
Fall 2017 *Lecture:* Low Carbon Structural Design – ETH Zurich, *Institute of Technology in Architecture*
Fall 2015 *Class:* Modeling and Analysis of Structures – MIT, *Instructor:* Prof. Corentin Fivet
Fall 2014 – 2016 *Class:* Building Structural Systems II – MIT, *Instructor:* Prof. Caitlin Mueller
Fall 2014 *Class:* Civil and Environmental Engineering Design – MIT, *Instructor:* Prof. Caitlin Mueller

Teaching Assistant

- Fall 2016 *Analysis of Historic Structures* – *Instructor:* Prof. John Ochsendorf, MIT
Fall 2013 *Building Structural Systems II: Advanced Structures & Envelope Design of a Skyscraper* – *Instructors:* Prof. John Ochsendorf and Andrea Love, MIT

Supervisor of Graduate Research (Thesis, Project, Design)

- 2017 – 2018
 - *Master Design Project:* E. Mermillod, “Reuse of dismantled nuclear plants” – EPFL with Prof. Vincent Kaufmann, Prof. Bernard Cache
 - *Master Design Project:* F. Salmona, “Architecture for contemporary musical performance” – EPFL with Prof. Corentin Fivet, Prof. Paolo Tombesi
- 2014 – 2015 *Master of Engineering Thesis:* R. Bianquis, “Assessment Methodology for Environmental Impact of Bridges” – MIT with Prof. John Ochsendorf
- Spring 2015 *Master Work* – International Design Center and Building Technology, MIT with Prof. John Fernández
- Fall 2014 *Design for Sustainability:* K.M.M. Tam, X. Wu, W. Gu, “Embodied carbon in tall buildings” – MIT
Fall 2014 *Design for Sustainability:* N. Lyon, R. Bianquis, E. Spencer, A. Wasef, “Impact of footbridges” – MIT

2013 – 2016 Supervisor Undergraduate Research Opportunities Program (UROP)

MIT

- Wesley K Lau, “Life cycle impacts of tall and slender buildings”
- Julia Hogroian, “Comparing carbon in case studies” and “Material quantities in stadia”
- Tess Hagerty, “Theoretical material quantities in low-rise concrete buildings”
- Jenny Liu, “Life cycle impact of cultural buildings”
- Illili Tegene, “Material quantities in concrete frame buildings”
- Chrystal Chem, “Defining the carbon footprint of materials”
- Eleanor Pence “Development of interactive, relational databases”

2013 – 2018 Invited Design Studio Jury Member

MIT, Dept. of Architecture & Civil and Environmental Engineering

- Spring 2018 *Class:* Constructive Second-Hand ENAC week – *Instructor:* Prof. Corentin Fivet
Fall 2015 *Class:* Architecture Design Option Studio – *Instructor:* Prof. Alexander D’Hooghe
Fall 2014 *Class:* Arch. Design Core 3 Studio – *Instructors:* Prof. Sheila Kennedy, Prof. Caitlin Mueller
Fall 2013 *Class:* Building Structural Systems II – *Instructor:* Prof. John Ochsendorf

PROFESSIONAL EXPERIENCE (See Research Experience p2)

2017 – 2019 **Postdoctoral Scientist**

EPFL (Fribourg, CH)

- Structural exploration to lower the environmental impact of the construction industry
- In collaboration European Commission & ETH Zurich at SXL
- *Supervisor:* Prof. Corentin Fivet

2016 **Research Assistant**

University of Cambridge (Cambridge, UK)

- Compared whole building embodied carbon assessment of industry practitioners to write a protocol
- In collaboration with architects, civil and environmental engineers, consultants
- *Supervisors:* Prof. Peter Guthrie and Dr. Alice Moncaster

Summer 2015 **Engineer**

Helionix (St Margaret's Bay, UK)

- Compared the environmental impact of the design of vaulted structures
- In collaboration with architects, structural engineers and consultants
- *Supervisor:* Marc Carey

Summer 2014 **Engineer**

Ney & Partners (Brussels, BE)

- Evaluated the environmental impact of bridges and other infrastructure projects
- In collaboration with structural engineers and contractors
- *Supervisor:* Kenny Verbeeck

2013 – 2014 **Visiting Researcher**

Arup (London, UK; San Francisco, US)

- Created a database to collect data of in-house structural design projects
- In collaboration with leading practitioners in embodied carbon
- *Supervisors:* Frances Yang and Andrea Charlson

Summer 2011 **Architectural Intern**

Modulo Architects (Brussels, BE)

- Worked on a school design competition and performed site visits
- In collaboration with architects, structural engineers, mechanical engineers and contractors
- *Supervisors:* Olivier Adam, Olivier Barré and Pierre Spruytte

2010 – 2012 **Book Editor**

ULB (Brussels, BE)

- Edited two books: “Analysis of Global Risk in High Rise Buildings” & “Major Construction Projects”
- In collaboration with researchers, engineers and designers
- Co-editors: Prof. Y. Rammer and Dr. Y. Dechamps

Summers **CAD Designer**

2009 – 2010 Royal Institute of Natural Sciences (Brussels, BE)

- Measured & integrated buildings in Computer Aided Design drawings
- In collaboration with building managers and safety surveyors
- *Supervisor:* Gilbert Claes

PUBLICATIONS

Journal Papers

- 2018 Smart and Sustainable Built Environment
Rodriguez, B.X., Simonen, K., Huang, M., De Wolf, C., “A taxonomy for Whole Building Life Cycle Assessment (WBLCA),” *Smart and Sustainable Built Environment*, 2018 (under review).
- 2018 Special Issue of Energy and Buildings
Pomponi, F., Moncaster, A., De Wolf, C., “Furthering embodied carbon assessment in practice: results of an industry-academia collaborative research project,” *Special Issue of Energy and Buildings on Embodied Energy and Carbon Efficiency*, 2018.
- 2018 Journal of Cleaner Production
Kupwade-Patil, K., De Wolf, C., Chin, S., Ochsendorf, J., Büyüköztürk, O., “Impact of Embodied Energy on materials/buildings with partial replacement of ordinary Portland Cement by natural Pozzolanic Volcanic Ash,” *Journal of Cleaner Production*, Vol. 177, 2017, 547-554, DOI: 10.1016/j.jclepro.2017.12.234.
- 2017 Journal of Technology | Architecture + Design (TAD)
Simonen, K., Rodriguez, B., De Wolf, C., “Benchmarking the Embodied Carbon of Buildings,” *TAD*, Vol. 1, Issue 2, 2017, 88-98.
- 2017 Energy
De Wolf, C., Cerezo, C., Murthadhawi, Z., Hajiah, A., Al Mumin, A., Ochsendorf, J., Reinhart C., “Life cycle building impact of a Middle Eastern residential neighbourhood,” *Energy*, Vol. 134, 2017, 336-348, DOI: 10.1016/j.energy.2017.06.026.
- 2017 Energy and Buildings
De Wolf, C., Pomponi, F., Moncaster, A., “Measuring embodied carbon of buildings; a review and critique of current industry practice,” *Energy and Buildings*, Vol. 140, No. 1 April 2017, 68-80, DOI: 10.1016/j.enbuild.2017.01.075.
- 2016 Journal of the International Association for Shell and Spatial Structures (IASS)
De Wolf, C., Ramage, M., Ochsendorf, J., “Low Carbon Vaulted Masonry Structures,” *Journal of the IASS*, Vol. 57, No. 4, December n. 190, 2016, 275-284.
- 2016 Institution of Civil Engineers (ICE) Engineering Sustainability
De Wolf, C., Yang, F., Cox, D., Charlson, A., Hattan, A., Ochsendorf, J., “Material quantities and embodied carbon dioxide in structures,” *ICE Journal of Engineering Sustainability*, Vol. 169, Issue ES4, 2016, 150-161, DOI: 10.1680/ensu.15.00033.
- 2014 Invited Paper – The Structural Engineer
De Wolf, C., Ochsendorf, J., “Participating in an Embodied Carbon Database,” *The Structural Engineer*, February Issue, 2014, pp. 30-31.

Books and book chapters

- 2018 Embodied Carbon in Buildings: Measurement, Management, and Mitigation
Pomponi, F., De Wolf, C., Moncaster, A. (ed.), *Springer International Publishing*, 512p., 2018
- Book chapter: De Wolf, C., Simonen, K., Ochsendorf, J., “Initiatives to Report and Reduce Embodied Carbon in Buildings in North America”
- 2017 The New Carbon Architecture
King, B. (ed.), *New Society Publishers*, Canada, 2017
- Book chapter: De Wolf, C., Droguett, B.R., Simonen, K., “Counting Carbon – What We Know and How We Know It”
- 2011 Analysis of Global Risk in High Rise Buildings
Rammer, Y., Dechamps, Y., De Wolf, C. (ed.), *VUB, ULB, Association des Entrepreneur Belges*, Brussels, Belgium, April 30, 2011, 302p.

Conference Papers

- 2019 International Conference on Structure and Architecture (ICSA) Lisbon
De Wolf, C., Fivet, C., “Tall Timber as Zero Carbon Structural Design,” *ICSA*, Lisbon, PT, July 24-26, 2019 (submitted).
- 2018 Passive and Low Energy Architecture (PLEA) Hong Kong
De Wolf, C., Brütting J., Fivet, C., “Embodied Carbon Benefits of Reusing Structural Components in the Built Environment: a Medium-rise Office Building Case Study,” *PLEA*, Hong Kong, CN, December 10-12, 2018.
- 2018 International Symposium on Life-Cycle Civil Engineering (IALCCE) Ghent
De Wolf, C., Davies, D., “Benchmarking embodied carbon in structural materials,” *LALCCE*, Ghent, BE, October 28-31, 2018.
- 2018 IASS Boston
Stern, B., Mueller, C., De Wolf, C., “Minimizing Embodied Carbon in Multi-Material Structural Optimization of Planar Trusses,” *Proceedings of the IASS*, Boston, US, July 16-20, 2018.
- 2018 IASS Boston
De Wolf, C., “Low Carbon Pathways for Structural Design,” *Proceedings of the IASS*, Boston, US, July 16-20, 2018.
- 2016 IASS Tokyo
De Wolf, C., Ramage, M., Ochsendorf, J., “Low Carbon Vaulted Masonry Structures,” *Proceedings of the IASS*, Tokyo, JP, September 26-30, 2016.
- 2016 Sustainable Built Environment (SBE) Zurich
De Wolf, C., Bird, K., Ochsendorf, J., “Material quantities and embodied carbon in exemplary low-carbon case studies,” *SBE Zurich*, Zurich, CH, June 13-17, 2016.
- 2015 IABSE Geneva
De Wolf, C., Verbeeck, K., Ochsendorf, J., “The environmental impact of bridges,” *IABSE Geneva*, Geneva, CH, September 23-25, 2015.
- 2015 IASS Amsterdam
Iuorio, O., De Wolf, C., Ochsendorf, J., “Embodied carbon of long span roofs,” *Proceedings of the IASS*, Amsterdam, NL, August 17-20, 2015.
- 2015 Contour École Polytechnique Fédérale de Lausanne (EPFL)
Göswein, V., De Wolf, C., Fernández, J., “Material flows and embodied carbon of residential buildings in African Cities,” *Contour EPFL - Agency/ Agents of Urbanity*, Lausanne, CH, June 1-2, 2015.
- 2014 IASS Brasilia
De Wolf, C., Hogroian, J., Ochsendorf, J., “Comparing material quantities and embodied carbon in stadia,” *Proceedings of the IASS*, Brasilia, BR, September 17, 2014.
- 2014 Sustainable Structures Symposium Portland
De Wolf, C., Iuorio, O., Ochsendorf, J., “Structural Material Quantities and Embodied Carbon Coefficients: Challenges and Opportunities,” *Proceedings of the Sustainable Structures Symposium*, Corey Griffin (ed.), Portland State University, Portland, US, April 18, 2014.

Posters

- 2016 Sustainable Built Environment (SBE) Zurich
De Wolf, C., Bird, K., Ochsendorf, J., “Material quantities and embodied carbon in exemplary low-carbon case studies,” *SBE Zurich*, Zurich, CH, June 13-17, 2016.
- 2015 Infrastructure Innovation in a Changing Environment Conference, MIT, US, November 20, 2015
- Hogroian, J., De Wolf, C., Ochsendorf, J., “Comparing material quantities & embodied carbon in stadia.”
 - Cin, S., Kupwade-Patil, K., De Wolf, C., Büyükoztürk, O., Ochsendorf, J., “Embodied carbon emissions for partial replacement of Ordinary Portland Cement (OPC) with natural pozzolanic volcanic ash.”
- 2014 Structures Congress
De Wolf, C., Ochsendorf, J., Yang, F., Werner, W. “Survey of Material Quantities and Embodied Carbon of buildings structures,” *Structures Congress*, Boston, USA, April 4, 2014.

General Press

- 2015 - 2017 Selected Bilingual columns (Dutch and French) for Architectura.be
- November 2017 Can buildings cool the climate?
- September 2017 For the reuse in construction
- January 2017 Tall timber structures
- October 2016 Life Cycle Assessment
- August 2016 Databases and methods for the environmental impact of buildings
- June 2016 Why do architects compute the environmental impact of construction materials?
- March 2016 Cradle to Grave
- January 2016 What happens to stadiums after the Games?
- October 2015 Learning sustainable design while traveling
- September 2015 Learning engineering in a history book

PRESENTATIONS

Industry workshops and professional presentations

- 2018 Greenbuild Europe
“Life Cycle Assessment as a Tool for Design” – *Industry workshop at Greenbuild*, with Havinga, L., Peretti, G., Naboni, E., Berlin, DE, April 18, 2018
- 2016 Embodied Carbon and Energy Symposium, University of Cambridge
“Implementing Whole Life Embodied Carbon in Buildings” – *University of Cambridge*, Cambridge, UK, 11 April, 2016, presenting and co-organizing symposium with industry practitioners
- 2015 Workshop embodied carbon at Thornton Tomasetti and Weidlinger
“Workshop on calculating embodied carbon in buildings” – *New York City office*, Oct. 8, 2015
- 2014 Professional presentation at Ney & Partners
“The environmental impact of bridges” – *Ney & Partners*, Brussels, BE, Aug. 21, 2014
- 2014 Professional presentation at SOM
“Evaluating embodied carbon in building structures” – *SOM*, Chicago, US, May 12, 2014
- 2014 PechaKucha for the embodied carbon week at Arup
“Embodied Carbon. What is your priority?” – London, UK, April 7, 2014
- 2014 Structures Congress
“Survey of embodied carbon in structures” – *Structures Congress*, Boston, US, April 4, 2014
- 2013 Professional presentation at Arup
“Embodied carbon: meeting of the minds and collaboration opportunities” – *MIT, Arup, SOM, Webcor*, San Francisco, US, July 10, 2013, presenting with F. Yang, D. Shook and P. Williams

Governmental presentations

- 2018 Europe Climate Foundation
“Optimization in Structures Scenario” – *Europe Climate Foundation*, Brussels, BE, May 23, 2018
- 2018 Joint Research Centre of the European Commission
“Low Carbon Structural Design” – *JRC Centre European Commission*, Sevilla, ES, March 27, 2018
- 2018 International Energy Agency (IEA)
“Efficient use of materials in building design” – *IEA Experts’ Dialogue on Materials trends in Buildings Construction*, Paris, FR, March 9, 2018
- 2017 Joint Research Centre of the European Commission
“Benchmarking embodied carbon in buildings” – *JRC Centre European Commission*, Ispra, IT, Dec. 18, 2017
- 2016 Emerging Leaders Conference at European Parliament
“Environmental impact of buildings” – *European Parliament*, Brussels, BE, Nov. 28, 2016

Academic presentations (See Teaching and Mentoring Experience)

- 2017 California Polytechnic State University
“Environmental Structures” – Lecture, *CalPoly*, San Luis Obispo, US, November 2, 2017
- 2017 Stanford University
“Low Carbon Pathways for Structural Design” – Seminar, *Stanford*, Palo Alto, US, November 1, 2017
- 2017 University of California, Berkeley
“Technologies for Sustainable Societies” – Civil Engineering Class, *UC Berkeley*, Berkeley, US, October 30, 2017
- 2017 Swiss Federal Institute of Technology (ETH) Zurich
“Low Carbon Structural Design” – NCCR Lecture, *ETH Zurich*, Zurich, CH, October 23, 2017
- 2017 Carbon Footprint and LCA Seminar at EURAC Research
“Whole life cycle embodied carbon in building structures” – *RESTORE*, Bolzano, IT, July 25, 2017
- 2017 Politecnico di Milano
“Carbon footprint of the built environment” –OPENTalks, *Polimi*, Milan, IT, July 24, 2017
- 2017 Imperial College London
“The impact of buildings” – Structures Seminar, *Imperial College London*, London, UK, Feb. 1, 2017
- 2015 Integrated Design Architecture and Sustainability (IDEAS) talk, EPFL
“Low carbon pathways for structural design” – *EPFL*, Lausanne, CH, June 1, 2015

Conference presentations (See Publications)

- 2018 IASS Boston
“Low Carbon Pathways for Structural Design” – Plenary Session, *MIT*, Boston, US, July 18, 2018
- 2016 IASS Tokyo • **Hangai Prize**
“Low Carbon Vaulted Masonry Structures” – Plenary Session, *Tokyo University*, Tokyo, JP, Sept. 30, 2016
- 2016 ISIE Americas
“Implementing Whole Life Embodied Carbon in Buildings” – *Universidad de Los Andes*, Bogota, CO, 24-27 May 2016
- 2015 ISIE, Taking Stock of Industrial Ecology, University of Surrey
“Retrofit Rethink: Material Flows for Housing in African Cities” – *University of Surrey*, Guildford, UK, 7-10 July 2015, with C. Loggia
- 2015 Contour EPFL
“Material flows of residential buildings” –*EPFL*, Lausanne, CH, May 31, 2015, with V. Göswein
- 2014 IASS Brasilia
“Comparing material quantities and embodied carbon in stadia.” – *Ulysses Guimarães Convention Center*, Brasilia, BR, 15-19 Sept. 2014
- 2014 Sustainable Structures Symposium, Portland State University • **Young Researcher Award**
“Material Quantities and Embodied Carbon Coefficients: Challenges and Opportunities” – *Portland State University*, Portland, US, April 18, 2014

General audience

- 2018 Smart living lunch, CH
“Low carbon structural design” – *smart living lunch, smart living lab*, February 6, 2018
- 2017 Green MIND University, BE
“Low carbon pathways for structural design” – *Greenfish, WBI, Tweed, Greenwin*, May 10, 2017
- 2015 Innovators under 35, BE • **Innovators under 35 Belgium Award**
“Pitch for low embodied carbon design tool” – *Innovators Under 35 Belgium*, May 20, 2015
- 2015 TEDx talk at Panthéon-Sorbonne, FR
“Les nouveaux matériaux (new materials)” – *Technology-Entertainment-Design (TEDx) talk*, May 16, 2015

RECOGNITION

- 2018 – 2023 Qualification maître de conference
French certificate of aptitude for assistant professorships in mechanical and civil engineering
- 2017 – 2019 EPFL Fellowship co-funded by Marie Skłodowska-Curie Postdoctoral Fellowship
For post-doctoral training at EPFL, funded by the European Commission
- 2017 – 2019 Swiss Government Excellence Scholarship
For post-doctoral training of international researchers in the Swiss Confederation
- 2015 – 2017 World Excellence Fellowship, Wallonie-Bruxelles International (WBI)
For doctoral and post-doctoral training abroad
- 2016 Hangai Prize, IASS
For talented young researchers, designers, & engineers in the field of shell & spatial structures
- 2016 Avalon and Graduate Student Council Travel Grants, MIT
For funding travels to present graduate research
- 2015 Innovators Under 35 Belgium Award, MIT Technology Review
For developing a database assessing embodied carbon in existing buildings
- 2014 – 2015 MIT Presidential Fellowship
President/Provost select candidates nominated by Dean/Department Head
- 2014 Harold Horowitz (1951) Student Research Fund, MIT
Fund to support publication of research results of exceptional merit
- 2014 Young Researcher Award, Portland State University
For paper presented at the Sustainable Structures Symposium
- 2012 – 2013 Gustave Boël – Sofina Fellowship
For talented students to go abroad for research, Platform for Education and Talent
- 2012 – 2013 Belgian American Education Foundation (B.A.E.F.) Fellowship
For outstanding Belgian students to study in a top US university
- 2012 – 2013 MIT Fellowship Award, Building Technology, Department of Architecture
Partial stipend support to supplement external fund
- 2012 Victor Horta Award of Excellence, ULB
Award for the best graduating student in Architecture
- 2012 Prix Alumni (A.Ir.Br), ULB
Best Master Thesis in Applied Engineering, 3rd place

COMMUNITY SERVICES

Leadership

- 2017 – 2018 *REthinking Sustainability TOwards a Regenerative Economy (RESTORE)*: Member committee substitute and working group subleader, EU Cooperation in Science and Technology (COST) Action
- 2013 – 2017 *Harvard-MIT Belgian Society*: President, treasurer, organizer of talks with scientists, CEOs and politicians
- 2011 – 2012 *Board of European Students of Technology (BEST)*: Vice President of Corporate Relations, co-organizer of summer course on lightweight structures

Journal and conference committees

- 2018 *IASS*: Scientific committee member, “Environmentally compatible structures” session co-chair, plenary speaker of Hangai Alumni Lighting Talks
- 2016 – 2017 *International Symposium on Sustainable Systems and Technology (ISSST)*: Scientific committee member for the International Society for Industrial Ecology (ISIE)
- 2016 – 2017 *Proceedings of ICE – Energy Efficiency*: Journal paper reviewer
- 2015 – 2016 *Proceedings of ICE – Engineering Sustainability*: Journal paper reviewer

Book editorial activities (see Publications)

- 2016 – 2018 Embodied Carbon in Buildings: Measurement, Management, and Mitigation, Springer
2010 Analysis of Global Risk in High Rise Buildings, ULB

Volunteering

- Summer 2017 *Fundación Trazando Espacios Públicos in Venezuela*: Volunteer, with Ana Vargas
2008 – 2016 *Private tutoring*: Tutor in Mathematics, Sciences, French, Piano
2014 – 2015 *Structural Design Lab at MIT*: Mentor, with Prof. John Ochsendorf and Prof. Caitlin Mueller
2014 *Teacher for Women in Science and Engineering (WiSE)*: Instructor, with Prof. Caitlin Mueller

SKILLS & ACTIVITIES

Languages

- Native French & Dutch
Fluent English

IT

- Software Revit, AutoCAD, Rhinoceros, Grasshopper, Adobe, Office
Programming MATLAB, HTML, SQL

Coursework

- Engineering Structural Analysis, Structure Mechanics, Resistance of materials, Steel/Concrete, etc.
Sustainability Design for Sustainability, Sustainable Design Studio, Modelling Energy, Building Physics, etc.

Other activities and interests

- 1996 – 2017 Theatre (acting), Piano, Singing, Rock climbing
Interests Design, Arts, Literature, Cinema, Foreign cultures, History, Travelling