

# Julien Gamerro

TIMBER ENGINEERING SPECIALIST · R&D · MANAGEMENT

Avenue de la Poste 18, 1020 Renens, Canton of Vaud, Switzerland

☎ (+41) 76-397-01-96 | ✉ julien.gamerro@epfl.ch | 🌐 www.juliengamerro.com | 🔗 My LinkedIn | 🎓 My Google Scholar | 🏠 My Orcid

## Summary

I am a passionate scientist specialized in timber engineering and I want to share my knowledge and experience to create a sustainable built environment for our future. My atypical path and practical experience in timber industry has guided me through research to explore the wide range of possibilities in wood construction. My expertise is also focused on the integration of new technologies within the AEC Industry because it will disrupt the way we think and build.

Moreover, I am very curious and I stay informed about society, policy and global context in which we are evolving. Therefore, I stay open to new professional challenges outside of my primary competences as long as there are interesting problems to solve and a motivated team.

## Education

### University Degrees

#### EPFL (École Polytechnique Fédérale de Lausanne)

Lausanne, Switzerland

##### PHD IN CIVIL AND ENVIRONMENTAL ENGINEERING

Sept. 2016 - Present

- Thesis: Development of Prefabricated Timber Structural Elements using Wood-Wood Connections.
- Institute: Laboratory for Timber Constructions IBOIS.
- Supervisors: Prof. Y. Weinand and Dr. J. F. Bocquet.
- [www.epfl.ch/labs/ibois/](http://www.epfl.ch/labs/ibois/)

#### ENSTIB (Ecole Nationale Supérieure des Technologies et Industries du Bois)

Epinal, France

##### MASTER IN ENGINEERING SCIENCES

Sept. 2013 - Sept. 2016

- Specialization: Timber engineering and Structural analysis.
- Award: Excellence level distinction in the field of structural analysis for timber structures.
- [www.enstib.univ-lorraine.fr/en/](http://www.enstib.univ-lorraine.fr/en/)

#### IAE Nancy - School of Management

Nancy, France

##### MASTER IN BUSINESS ADMINISTRATION - MBA

Sept. 2015 - Sept. 2016

- Awarded student to attend a MBA program during the last year of engineering school (night classes).
- Program: Business law, management and marketing.
- [www.iae-nancy.univ-lorraine.fr](http://www.iae-nancy.univ-lorraine.fr)

### Technical Degrees

#### Apprenticeship in a timber company

Pringy, France

##### TIMBER CONSTRUCTION - BTEC HIGHER NATIONAL DIPLOMA

Sept. 2010 - Sept. 2012

- Performed tasks: carpenter, prefabrication (CAD/CAM), design and structural analysis of timber structures.
- Company: Labat & Sierra (Sillingy, France).

#### Les Compagnons du Tour de France

Seynod, France

##### YOUTH TRAINING IN CARPENTRY

Sept. 2009 - Sept. 2010

- One year apprenticeship to learn the carpentry trade.
- Company: Dunoyer (Poissey, France).
- [www.compagnonsdutourdefrance.org](http://www.compagnonsdutourdefrance.org)

## Work Experience

#### The National Centre of Competence in Research Digital Fabrication (NCCR dfab)

EPFL & ETHZ, Switzerland

##### PHD RESEARCHER

Nov. 2017 - Present

- The National Centre of Competence in Research (NCCR) Digital Fabrication is Switzerland's initiative to lead the development and integration of digital technologies within the field of architecture. Initiated in 2014, the NCCR Digital Fabrication aims to revolutionize architecture through the seamless combination of digital technologies and physical building processes.
- Collaborative projects with other institutions and researchers on prefabrication possibilities and structural analysis of timber constructions.
- Funding center of my thesis.
- [www.dfab.ch](http://www.dfab.ch)

## PopUp House

Aix-en-Provence, France

### RESEARCH & DEVELOPMENT

Aug. 2015 - Mar. 2016

- PopUp House is an innovative research and design office specialized in the construction industry. Its aim is to build high performance and well insulated buildings effectively and efficiently.
- My work was to perform an in-depth analysis of the mechanical properties of this new timber construction system.
- Experimental tests and calculation models for this new type of timber frame structure have been developed through a collaboration with ENSTIB engineering school (internship).
- [www.popup-house.com/en/](http://www.popup-house.com/en/)

## EGP Bat

Annecy, France

### ASSISTANT PROJECT MANAGER

Apr. 2015 - Jul. 2015

- Internship in a company specialized in project management of residential buildings.
- My duties were the organization and planning processes of concrete buildings sites.

## Dunoyer / Labat & Sierra / Les Compagnons du Tour de France

Annecy, France

### TIMBER CONSTRUCTION APPRENTICE

Sept. 2009 - Sept. 2012

- Duties included: Design, structural analysis, fabrication and site supervision of timber constructions projects.
- Diplomas: Youth training and BTEC Higher National Diploma.
- [www.dunoyer.com/](http://www.dunoyer.com/) / [www.labat-et-sierra.com](http://www.labat-et-sierra.com)

## Skills

	Timber Engineering, Structural Analysis
<b>Specific Skills</b>	Design for Manufacture and Assembly (DfMA), Digital Fabrication
	Innovative structure, Sustainable constructions
<b>CAD &amp; CAM Softwares</b>	Cadwork, Rhinoceros
<b>Structural Analysis Softwares</b>	AcordBat, Abaqus, MD Bat
<b>Programming</b>	Python, Matlab, Gcode, Latex
<b>Languages</b>	French (Native), English (C1), Spanish (A1), German (Beginner)

## Presentation

### International Conference on Computational Methods in Wood Mechanics

Linnaeus University, Växjö, Sweden

#### SIMPLIFIED CALCULATION MODEL FOR INTERCONNECTED TIMBER ELEMENTS USING WOOD-WOOD CONNECTIONS

Jun. 2019

- CompWood is part of thematic conference organized by the European Community on Computational Methods in Applied Sciences. The conference is devoted to computational methods applied in the field of wood mechanics and timber engineering for research from material properties up to structural applications.

### European Cooperation in Science and Technology: COST FP1402 Workshop

ETHZ, Zürich, Switzerland

#### FUTURE CHALLENGES AND NEED FOR RESEARCH IN TIMBER ENGINEERING

Oct. 2018

- COST Action FP1402 "Basis of Structural Timber Design - from research to standards" is an European Action to overcome the gap between broadly available scientific results and the specific information needed by designers, industry, authorities and code committees, providing transfer for practical application in timber design and innovation.
- With the increasing interest for automation in the construction industry, timber structures are evolving faster and faster. In this talk, I presented the impact of digital technologies on research in timber engineering.

### European Cooperation in Science and Technology: COST FP1402 Workshop

TUM, Munich, Germany

#### HOW WILL WE PLAN AND BUILD IN 25 YEARS AND HOW WILL THIS PROCESS BE REGULATED?

Sept. 2018

- This presentation is about the challenges for the world and therefore for the AEC industry. All the actors of the different fields (policy, construction, technology) should work together toward the same goal: "decarbonize our industry".

### World Conference on Timber Engineering (WCTE)

National Institute of Forest Science,  
Seoul, South Korea

#### MECHANICAL CHARACTERIZATION OF TIMBER STRUCTURAL ELEMENTS USING INTEGRAL MECHANICAL ATTACHMENTS

Aug. 2018

- WCTE is the most prestigious international event in timber engineering, engineered wood products and design of timber structures, which is held biennially in different parts of the world and attracts researchers, engineers and architects, code consultants and building officials, contractors and project managers, fabricators and suppliers from all continents. I presented my latest work about structural design of wood-wood connections for plate structures.

### 8th International Wood Construction Forum

Dijon, France

#### THE NEW VIDY THEATRE: AN INNOVATIVE TIMBER STRUCTURE

Apr. 2018

- Presentation of the new innovative timber structure of the Vidy theatre. The construction of Vidy theater pavilion, designed in the laboratory of Timber Constructions of EPFL, provides the implementation of unprecedented support structure exclusively made of wood panels.

## Publications

### Le Pavillon en Bois du Théâtre de Vidy (fr)

BAUDRILLER, V., GAMERRO, J., JACCARD, M., ROBELLER, C., WEINAND, Y. (2017). "LE PAVILLON EN BOIS DU THÉÂTRE DE VIDY." PRESSES POLYTECHNIQUES ET UNIVERSITAIRES ROMANDES.

Book

2017

### Rotational mechanical behaviour of wood-wood connections with application to double-layered folded timber-plate structure

Journal Paper

GAMERRO, J. ET AL. (2018). "ROTATIONAL MECHANICAL BEHAVIOUR OF WOOD-WOOD CONNECTIONS WITH APPLICATION TO DOUBLE-LAYERED FOLDED TIMBER-PLATE STRUCTURE." CONSTRUCTION AND BUILDING MATERIALS. 165. PP. 434-442.

2018

### Théâtre Vidy Lausanne - A Double-Layered Timber Folded Plate Structure

Journal Paper

ROBELLER, C., GAMERRO, J., WEINAND, Y. (2017). "THÉÂTRE VIDY LAUSANNE - A DOUBLE-LAYERED TIMBER FOLDED PLATE STRUCTURE." JOURNAL OF THE INTERNATIONAL ASSOCIATION FOR SHELL AND SPATIAL STRUCTURES. 58. PP. 295-314.

2018

### Modelling Workflow for Segmented Timber Shells Using Wood-Wood Connections

Conference Paper

VESTARTAS, P., ROGEAU, N., GAMERRO, J., WEINAND, Y. (2020). "MODELLING WORKFLOW FOR SEGMENTED TIMBER SHELLS USING WOOD-WOOD CONNECTIONS", IN: GENGNAGEL, C., BAVEREL, O., BURRY, J., RAMSGAARD THOMSEN, M., WEINZIERL, S. (EDS.), IMPACT: DESIGN WITH ALL SENSES. SPRINGER INTERNATIONAL PUBLISHING, CHAM, PP. 596-607.

2019

### Mechanical Characterization of Timber Structural Elements Using Integral Mechanical Attachments

Conference Paper

GAMERRO, J., LEMAÎTRE I., WEINAND, Y. (2018). "MECHANICAL CHARACTERIZATION OF TIMBER STRUCTURAL ELEMENTS USING INTEGRAL MECHANICAL ATTACHMENTS." WORLD CONFERENCE ON TIMBER ENGINEERING, SEOUL, SOUTH KOREA.

2018

### Multiple Tab-and-Slot Joint : Improvement of the Rotational Stiffness for the Connection of Thin Structural Wood Panels

Conference Paper

ROCHE, S., GAMERRO, J., WEINAND, Y. (2016). "MULTIPLE TAB-AND-SLOT JOINT: IMPROVEMENT OF THE ROTATIONAL STIFFNESS FOR THE CONNECTION OF THIN STRUCTURAL WOOD PANELS." WORLD CONFERENCE ON TIMBER ENGINEERING.

2016

## Teaching

### Master Project Supervision: Numerical modeling of timber joints

EPFL, Switzerland

NUMERICAL MODEL OF A TIMBER TAB-AND-SLOT JOINT

Fall 2019

- Student: Vincent Lestang
- Student University: École Polytechnique Fédérale de Lausanne

### Bachelor Course

EPFL, Switzerland

DESIGN OF STRUCTURE

Fall 2018

- Teaching Assistant, lectures and exercises.
- The Design of structure course is given by Professor Yves Weinand (architect and engineer) for third year bachelor students specialized in Architecture.
- Objectives: understand and design innovative constructions, deepen techniques through the study of selected examples, build models, fragments of structure and constructive and structural details.

### Master Project Supervision: Numerical modeling of timber structures

EPFL, Switzerland

MECHANICAL CHARACTERIZATION OF A PREFABRICATED ORTHOTROPIC SLAB MADE OUT OF OSB PANELS USING WOOD-WOOD CONNECTIONS

Spring 2017

- Student: Ingebrigt Lemaître
- Student University: École Nationale Supérieure de Techniques Avancées (ENSTA Paris Tech)

## Scientific Committees, Editorial and Societies

2019 **Member**, Restaurons Notre-Dame Association

Paris

2019 **Reviewer**, Construction and building material journal

Elsevier

2018 **Participant**, COST Action FP1402 "Basis of Structural Timber Design" - from research to standards

TUM, Germany

# Extracurricular Activity

---

## Structural Engineering Group of EPFL

Lausanne, Switzerland

### LABORATORY REPRESENTATIVE

Jan. 2017 – Present

- The Structural Engineering Group represents 7 laboratories of the Civil Engineering Institute (IIC) of EPFL.
- I represent the chair of timber constructions to manage and invest in scientific equipment in order to perform high quality research.
- The Structural Engineering Platform offers a wide range of experimental facilities for testing structural materials and components at various scales (micrometers to meters) and under a large range of loadings (static and dynamic forces and displacements, temperature). It comprises at present four testing halls, four climatic rooms as well as 3 workshops.

## Faculty Council of the School of Architecture, Civil and Environmental Engineering of EPFL

Lausanne, Switzerland

### MEMBER

Sept. 2018 – Present

- The Council approves strategic proposals related to the education of Bachelors and Masters, research and planification of the faculty.
- Education (creation and suppression of diplomas, determination of educational evaluation methodology).
- Research (annual Report, Research general policy).
- Planification (Strategic planification, creation or closure of institutes or centres).
- Faculty policy and approval of nomination proposals according to each faculty policy.

## Lausanne Youth Support Center (CVAJ)

Lausanne, Switzerland

### TEACHER

Jan. 2017 – Jan. 2018

- Teacher for children from 10 to 15 years old for basic sciences (mainly mathematics, physics and biology).
- Member of this association serving children and young people in the canton of Vaud. Its complementary mission to public action aims to help promote support for children and young people.

## Union Sportive d'Annecy Le Vieux (USAV)

Annecy, France

### SOCCER COACH

Jan. 2008 – Sept. 2012

- Coach for children from 8 to 12 years old.
- Soccer player since I am 5 years old.