



# Alessandro Polla

## Curriculum Vitae

### Personal Information

Address Via Martellono 22, 10080 Issiglio, Italy  
Phone (0039) 345 9566537  
Email [alessandropolla.95@gmail.com](mailto:alessandropolla.95@gmail.com) / [alessandro.polla@studenti.polito.it](mailto:alessandro.polla@studenti.polito.it)  
Web Profile [www.linkedin.com/in/alessandro-polla](http://www.linkedin.com/in/alessandro-polla)

### Education

2017–Present **Master's Degree Aerospace Engineering**, *Politecnico di Torino*, Turin.  
Structural Field  
2014–2017 **Bachelor's Degree Aerospace Engineering**, *Politecnico di Torino*, Turin, 109/110 GPA – 3.6/4.  
2009–2014 **Scientific Technology High-School**, *A. Gramsci*, Ivrea, 95/100.

### Bachelor Thesis

Title *Modellizzazione agli elementi finiti di alettoni e castello motore del velivolo S55 replica*  
Supervisors Professor Enrico Cestino, Vito Sapienza & BETA CAE Italy  
Description The aim of the final test was to analyze the peculiarities of the S55 aircraft in all its aspects through modern technology and modern structural calculating software, trying to reread in modern terms the techniques and solutions that have been made to build the seaplane in the '20s. The purpose of the study is to analyze the components of the aircraft again by adopting structural modeling and structural analysis tools such as ANSA and NASTRAN, designed to evaluate and investigate the structure in detail of its parts.

### Experience

#### Vocational

2018–Present **Seaplane Impact Simulation with LS-DYNA**, TEAM S55 & TESCO GO A JBM GROUP, Turin.

The aim of this simulation is to study with an explicit software the different situations during ditching on the water. The final goal of our (Tesco Go & Me) investigation is to find pressure distributions and inertial forces during this situation over the entire surface and study the correspondence with experimental data obtained from experiment in the Polytechnic's experimental pool. After that, we want to simulate the entire airplane (flexible/elastic material) in order to investigate different angles of attack and velocity during the approach & impact fase.

- External collaboration contract

o Tesco GO – [www.jbmtesco.com](http://www.jbmtesco.com)

2018–Present **Head of Technical Division**, TEAM S55, Politecnico di Torino, Turin.  
The Team S55 is a group of students at Polytechnic of Turin that was born in order to study the particularities of the S55 airplane.  
- In this team I work as a CAE engineer and supervisor of the technical group. My researches concerns the static and the dynamics of the plane.

2017–Present **FEM Analysis Division Member**, REPLICAS55 & BETA CAE ITALY, Turin.  
"Replica 55" brings together a group of professionals and enthusiasts in the aeronautics industry who have a precise and absolute goal: design, build and fly the faithful replica of the SIAI Marchetti S-55X aircraft, one of the most iconic aircraft in our history.  
- My role in this group is based on the study and definition of the FEM models of the airplane S55 and its single parts. The models are used in order to investigate the modal response of the structure and the stresses if subjected to variable loads like those present in the aerospace field.  
- External collaboration contract

- Replica55 – [www.replica55.it](http://www.replica55.it)
- BETA CAE Italy – [www.beta-cae.com](http://www.beta-cae.com)

2017 **BSc Thesis**, BETA CAE ITALY, Turin.  
Structural analysis with pre-processor ANSA, META solver or MSC Nastran solver.  
Title: Modellizzazione agli elementi finiti di alettoni e castello motore del velivolo S55 replica.

2015–2016 **CAD Designer of TORO**, TEAM DIANA, Politecnico di Torino, Turin.  
Team DIANA is a student group from Politecnico di Torino that was born in order to improve and promote space robotics knowledge inside the university. The team is working on engineering model and mobility system of martian rover.  
- In this team I designed the gear system that correspond to the rotating base used for the movement of robotic arm. I used SolidWorks for the design of the structure and the mechanical simulation tool for the analysis and tests of the components.

### Miscellaneous

2017–Present **Private CAD Tutor for students**, Turin.

Summer 2016 **Volunteer program**, *British Columbia*, Canada.

I worked in a rafting resort near Vancouver. The experience helped me to understand how to work in a international team, how to interact with other people and communicate with them.

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### Publications

2018 31st Congress of the International Council of the Aeronautical Sciences – Replica 55 Project: Aerodynamic and fem analysis of a wooden seaplane.

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### Certificate

2017 Solidworks CSWP – Licence: C-3KXD4LTC6F  
2017 Solidworks CSWA – Licence: C-SKUFSLFAGA  
2012 ECDL – SKILLS CARD N° IT-1768723

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### Computer skills

Basic ADAMS, STAR CCM+, SIEMENS NX, CATIA V5, Adobe Photoshop  
Intermediate LS-DYNA, ANSA & META CAE, HPC PoliTO, MATLAB, NASTRAN, L<sup>A</sup>T<sub>E</sub>X, C++, Microsoft Office  
Advanced SOLIDWORKS PREMIUM  
OS MACOS, WINDOWS

## Languages

Italian **Mothertongue**

English **Intermediate**

*IELTS B2*

## Soft Skills

- Autonomy: 9
- Flexibility/Adaptability: 9
- Ability to plan and organize: 10
- Achievement of objectives: 10
- Entrepreneurial spirit and initiative: 10
- Problem Solving: 9
- Leadership: 9
- Self confidence: 9
- Precision/Attention to details: 10
- Learn continuously: 9
- Managing information: 9
- Communication: 9
- Team work: 9

## Interests & Hobby

- Structural Analysis
- Composite Materials
- Kayaking
- Motorbike
- CFD Analysis
- Turbulence Analysis
- Skiing
- Mountain sports