

# Manuel Lombardi

## EDUCATION AND TRAINING

November 2023 - Today: **PhD student in “Industrial and Management Engineering”** at Sapienza University of Rome (Rome, Italy) - Department of Mechanical and Aerospace Engineering

The PhD program is **funded by PNRR, in collaboration with EUROCONTROL** as an industrial partner.

Management and operations in aviation play a key role in the research project.

**Master degree:** Aeronautical Engineering, 2023 (110/110)

**Thesis title:** *An algorithm for managing Call Sign Similarity (CSS) to improve air traffic safety:* an algorithm was developed using Microsoft Power BI, which allows to obtain the number of CSS per day, per ACC and in every hour of the day; finally a discussion was carried out, in which an approach to introduce new Call Sign proposals to mitigate the problem was analyzed.

**Thesis Supervisor:** **Prof. R. Patriarca**

**Università degli Studi di Roma "La Sapienza" - Rome**

**Bachelor degree:** Aerospace Engineering, 2020 (109/110)

**Thesis title:** Winglets: caratteristiche e funzionalità.

**Thesis Supervisor:** **Prof. G. Graziani**

**Università degli Studi di Roma “La Sapienza” - Rome**

## POSTGRADUATE EDUCATION COURSES

February 2024 - July 2024: **Advanced Training Course in Project Program Portfolio Management**, Sapienza University of Rome & Project Management Institute Italy

## TEACHING ACTIVITIES

July 2024 - Today: **Tutor and teaching assistant for 2nd Level Master’s Degree Programme in Aviation Industry Management and Operations (AvIMO)** at Sapienza University of Rome (Rome, Italy) - Department of Mechanical and Aerospace Engineering

## PROFESSIONAL EXPERIENCE

June 2023 - November 2023: **Internship Trainee** at **EUROCONTROL Headquarter** (Brussels, Belgium) - Network Management Directorate / Safety Unit.

## IT SKILLS

M, Mathematica, Matlab, Microsoft Office, Python, Power BI

## MAIN PROJECTS

November 2023 - Ongoing: **RESilience management to Industrial Systems Threats (RESIST)** - *Department of Mechanical and Aerospace Engineering at Sapienza University of Rome in collaboration with University of Bologna and Universty Politecnica delle Marche*. Research project funded under the Research Projects of National Interest (PRIN) 2022 programme.

## RESEARCH AWARDS and RECOGNITIONS

1. **Selected paper** during 13th International Association for the Advancements of Space Safety (IAASS) Conference, 8-10 October 2024, Prague (Czech Republic).
2. **Winner of the 2024 International Association for the Advancements of Space Safety (IAASS) scholarship**. The scholarship was provided for best papers submitted to the 13th IAASS Conference "Building a safe, secure, and sustainable space", 8-10 October 2024, Prague (Czech Republic).
3. **Selected paper** during 11th European STAMP Workshop and Conference "Advancing Safety in a Complex World", 2-4 October 2024, Alexandroupolis (Greece).

## PUBLICATIONS

### *Reviewer – Journals*

Since 2024: The Lancet Regional Health – Southeast Asia

### *International journals*

1. **Lombardi, M.**, Guskova, N., Stefana, E., Di Gravio, G., Patriarca, R., 2024. A system-theoretic approach to assess territory readiness for Advanced Air Mobility operations. Under review (Journal of Air Traffic Management).
2. **Lombardi, M.**, De Matteis, G., Di Antonio, G., Lumaca, L., Patriarca, R., 2024. Risk assessment for a suborbital flight operation. Under review (Journal of Space Safety Engineering).

### *International conferences*

1. **Lombardi, M.**, Patriarca, R., 2024. *Evaluating ground impact severity in suborbital vehicle explosion scenarios*. 3rd International Workshop on Reliability Engineering and System Safety (RECI 2024), 6-8 November 2024, online.
2. **Lombardi, M.**, De Matteis, G., Di Antonio, G., Lumaca, L., Patriarca, R., 2024. *Risk assessment for a suborbital flight operation*. 13th IAASS Conference “Building a Safe, Secure and Sustainable Space”, 8-10 October 2024, Prague (Czech Republic).
3. Stefana, E., **Lombardi, M.**, Patriarca, R., 2024. *A systemic safety analysis to manage eVTOL vehicles at vertiports in different life cycle stages*. 11th European STAMP Workshop and Conference “Advancing Safety in a Complex World”, 2-4 October 2024, Alexandroupolis (Greece).
4. Simone, F., Nakhal, A., A., **Lombardi, M.**, Di Gravio G., Patriarca R., 2024. *Human-Hardware In The Loop (HHIL) STAMP-based simulations to model cyber-physical complexity in experimental high-risk plants*. 11th European STAMP Workshop and Conference “Advancing Safety in a Complex World”, 2-4 October 2024, Alexandroupolis (Greece).
5. Nakhal, A., A., J., Simone, F., **Lombardi, M.**, Costantino, F., Di Gravio, G., Tronci, M., Bortolini, M., Mazzuto, G., Patriarca, R., 2024. *Dealing with 15.0 complexity: cyber-socio-technical systems modelling and analysis*. Proceedings of XXIX Summer School “Francesco Turco” Impianti Industriali Meccanici “Sustainability and resilience in industrial systems across the era of digitalization”, 11-13 September 2024, Otranto (Italy).
6. **Lombardi, M.**, Di Gravio, G., Licu, T., Patriarca, R., 2024. *An expert system to manage Call Sign Similarity (CSS) for safer air traffic operations*. 24th NTCA International Conference (New Trends in Civil Aviation), 25-26 April 2024, Prague (Czech Republic).

## *Other presentations at conferences*

1. **Lombardi, M.** (2024). *An expert system to manage Call Sign Similarity (CSS) for safer air traffic operations - Updates*, EUROCONTROL, Safety Team, EUROCONTROL Headquarters, Brussels (Belgium), 27/06/2024.
2. **Lombardi, M.** (2023). *An expert system to manage Call Sign Similarity (CSS) for safer air traffic operations*, EUROCONTROL, Safety Team, EUROCONTROL Headquarters, Brussels (Belgium), 22/07/2023.