

PASQUALE ISABELLI

R&D Engineer

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PROFESSIONAL SUMMARY

R&D Engineer with a PhD in Health and Technology and over five years of experience in the design, development, and validation of advanced technological systems. Strong hands-on background in prototype development, experimental testing, and data-driven optimization. Accustomed to working on applied R&D projects with industrial relevance, collaborating with multidisciplinary teams, and supporting the transition from laboratory concepts to robust, scalable solutions. Applied expertise in air treatment, decontamination technologies, and plasma-based engineered systems.

KEY SKILLS

- Prototype design, development, and testing of electro-mechanical systems.
- Experimental validation under realistic airflow and contamination conditions.
- Electrical and functional characterization of systems.
- Technology scale-up and robustness optimization for pre-industrial applications.
- Experienced in state-of-the-art research via patents and scientific publications.
- Data analysis, reporting, and technical documentation.
- Cross-functional collaboration in multidisciplinary environments.

PROFESSIONAL EXPERIENCE

Alma Mater Studiorum – University of Bologna – R&D Engineer | 2020 – Present

- Designed and developed experimental prototypes for air and surface treatment technologies, supporting performance validation and system robustness for real-world applications
- Performed electrical, chemical, and functional testing to assess system efficiency, stability, and operational limits.
- Design and execution of engineering-driven microbiological validation protocols for decontamination systems.
- Optimized operating parameters and system configuration to improve robustness and applicability in real-environment conditions.
- Collaborated with internal teams, industrial partners, and international research groups on applied R&D projects.
- Contributed to technical documentation, reporting of experimental results, and knowledge transfer activities.

AlmaPlasma s.r.l. – R&D Engineer | 2019 – 2022

- Supported the development and characterization of plasma-based technological solutions for industrial applications.
- Assisted in prototype manufacturing, experimental campaigns, and performance analysis.
- Worked in close interaction with engineers and researchers to adapt laboratory concepts to applied use cases.

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TECHNICAL SKILLS

- Engineering & Prototyping: CAD (SolidWorks, SolidEdge), 3D printing, mechanical fabrication, high-voltage, and laboratory instrumentation.
- Testing & Analysis: experimental testing and validation, electrical measurements, and advanced diagnostics instrumentation, plasma-based liquid treatment, and chemical analysis of plasma-treated liquids
- Bioaerosol generation, sampling, and analysis to assess performance of air treatment and antimicrobial technologies.
- Bioengineering: Hands-on experience in microbiological testing (bacteria, SARS-CoV-2) within BSL-2 and BSL-3 laboratory environments, applied to engineering validation.
- Software: MATLAB, Microsoft Office.

EDUCATION

- PhD – Health and Technology | Alma Mater Studiorum – University of Bologna.
- MSc – Energy Engineering, 110/110 cum laude | Alma Mater Studiorum – University of Bologna.
- BSc – Mechanical Engineering | University of Calabria.

PUBLICATIONS

Author ([Google Scholar Profile](#)) of publications supporting technology validation and applied R&D activities

LANGUAGES

- Italian: Native
- English: Profession working proficiency.