

## VINCENZO LUNETTO

Date of birth: **25/07/1993**

Residence: **Torino**

European driving license: B category

Esame di Stato for the qualification to the profession of engineer (Section A)

**Italian: native speaker**

**English: fluent written, fluent speaking**

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### PROFESSIONAL PATH:

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- **Assistant professor at the interdepartmental center J-Tech@Polito**, <http://www.j-tech.polito.it/>  
Research topic: **Study, simulation, experimentation and optimization of semisolid and liquid joining processes.**  
Start date: **01/02/2022. Ongoing**
- **Research assistant at the interdepartmental center J-Tech@Polito**, <http://www.j-tech.polito.it/>  
Research topic: **Study, simulation, experimentation and optimization of semisolid and liquid joining processes.**  
Start date: **01/01/2021**, End date: **31/01/2022**
- **Teaching activity**
  - **Adjunct professor** for different courses of Bachelor degree and MSc degree, **Politecnico di Torino**, [https://www.digep.polito.it/en/personale/scheda/\(nominativo\)/vincenzo.lunetto/\(sezione\)/didattica](https://www.digep.polito.it/en/personale/scheda/(nominativo)/vincenzo.lunetto/(sezione)/didattica)
  - **Adjunct professor** for the course of "Manufacturing Technology". Course of the Bachelor degree in Mechanical Engineering, **Free University of Bozen-Bolzano**. AY: **2017-2018**
- **Consultancy for General Motors in the framework of the project "Engine Thermal Insulation"**  
Analysis of production technologies for thermal insulation of automotive engine components. **Training scholarship in carrying out research activities, Politecnico di Torino**. Start date: **August 2016**, End date: **December 2016**

### EDUCATIONAL PATH:

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- **PhD in Management, Production and Design**  
**Politecnico di Torino**. Start date: **01/11/2017**. Graduation: **13/04/2021**  
Research topic: **Circular Economy strategies and their implementation to manufacturing systems. Progress in the economic, environmental and social sustainability of manufacturing processes along the product life cycle. Energy efficiency of additive technologies and comparison with conventional techniques.** Thesis link: <https://iris.polito.it/handle/11583/2897008#.YWMZaWLP1PY>
- **Visiting PhD student**  
**UNSW - The University of New South Wales**. Sydney, Australia. Period: **01/10/2019 - 30/06/2020**. Research topic: **Circular Economy strategies and their implementation to manufacturing systems. Sustainability in Manufacturing & Life Cycle Engineering Research Group @ UNSW**, <http://www.lcerresearch.unsw.edu.au/>
- **MSc in Mechanical Engineering (LM-33)** Final mark: **110/110 cum laude**  
**Politecnico di Torino**. Start date: **September 2015**. Graduation: **25/10/2017**  
Thesis topic: **Life Cycle Assessment of additive manufacturing processes**
- **Erasmus+ (Development of the MSc thesis)**  
**NTNU - Norges Teknisk-Naturvitenskapelige Universitet**. Trondheim, Norway. Period: **March 2017 - July 2017**.  
Thesis link: <https://ntnuopen.ntnu.no/ntnu-xmlui/handle/11250/2453825>
- **Bachelor in Mechanical Engineering (L-9)** Final mark: **110/110 cum laude**  
**Università degli Studi di Palermo**. Start date: **September 2012**. Graduation: **21/07/2015**  
Thesis topic: **State of art of hybrid joints in metallic material and composites**

### AWARDS AND ACKNOWLEDGMENTS:

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- **2018: Winner of the award for young researchers "Nuove idee per la Fabbrica del Futuro"**. Promoted from the Consiglio Nazionale delle Ricerche (CNR). **Project description:** "Modular multi-sensor system for the identification of complex end of life products in circular economy factories". **Award description:** Scholarship of 2500 euros to spend on an internship/visit in a research organization chosen by the winner. **Project conceived by 5 people from different research centers in Italy**. Dates of the event: 26-30/11/2018. Road-show: Napoli - Torino - Milano - Parma - Roma

## SOFTWARE SKILLS:

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Well experienced on the use of the following softwares: **Abaqus, Ansys, Autodesk Inventor, Autodesk Netfabb, Fluke Power Log, GrabCAD Print, MATLAB, Minitab, Pack Office, QForm, Siemens NX, Simulink, SolidWorks, Sorpas, Sysweld, VISI Flow**

## RESEARCH PROJECTS AND LABORATORY EXPERIENCES:

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- **2021-Ongoing: Laboratory experience at J-Tech@PoliTO - Advanced Joining Technologies.** Feasibility of high strength material joints by means of green welding techniques as Friction Stir Welding (FSW). Study of Laser Welding, Arc Welding, Hybrid Laser-Arc Welding and Resistance Spot Welding for innovative joint configurations (e.g., dissimilar materials, dissimilar part thickness). The laboratory activity involves the numerical simulation of the above mentioned technologies, as well as the design of toolings for the FSW machine (i.e., friction tools and relative adapters, fastening and shielding gas systems for sheets), <http://www.j-tech.polito.it/>
- **2018-2020: Research activity in the framework of the international project “Sustainable integration of HYbrid additive/subtractive MANufacturing for difficult-to-cut materials (Acronym: HY-MAN)”.** Funded under the call “POR-FESR 2014/2020 - Asse I, Azione I.1b.1.2 - Manunet III Transnational Call 2017”. Project task: energy consumption measures of a WAAM system
- **2018-2020: Research activity in the framework of the project “Multidisciplinary Valuation of the technological and sustainability performance of different Additive manufacturing systems for the realization of components in Metallic and Polymeric materials (Acronym: VAMP)”.** Co-financed as part of the call for research projects within the Department of Management and Production Engineering of Politecnico di Torino. Project task: energy consumption measures of different FDM systems
- **2017-2020: Laboratory experience at IAM@PoliTo - Integrated Additive Manufacturing.** Experimental measurements and computation of regression models for the energy characterization of manufacturing systems. Focus on 3D printers powered by single-phase and three-phase wire supply. The developed models aim to predict the energy consumption of an AM machine connecting its deposition efficiency (Average Deposition Rate,  $DR_a$ ) to its energy efficiency (Specific Energy Consumption, SEC), while including the effects of the part geometrical features, <http://iam.polito.it/>. The activity produced the following journal papers: DOI: [10.1016/j.jmapro.2020.06.002](https://doi.org/10.1016/j.jmapro.2020.06.002), DOI: [10.1016/j.addma.2020.101115](https://doi.org/10.1016/j.addma.2020.101115)

## TRAINING COURSES AND CERTIFICATES:

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- **Radioprotection (D.Lgs. 101/2020, Art. 111).** Promoted by the Politecnico di Torino in collaboration with MARDEL Srl - Radioprotection & Engineering. Course date: **09/12/2020**
- **Arc welding, laser welding and robot programming.** Promoted by the Politecnico di Torino in collaboration with ABB and Optoprim. Course date: **11/2020**
- **Thermographic system (FLIR®) for welding analysis and welded joints.** Promoted by the Politecnico di Torino in collaboration with Diagnostic Engineering Solution. Course date: **14/02/2019**
- **SolidWorks Mechanical Design Certificate (Associate level).** Certificate date: **30/07/2018**
- **Solid bonding and the manufacturing processes taking advantage of this phenomenon.** Promoted by the Università degli Studi di Palermo as part of the ESAFORM international conference. Course date: **22/04/2018**

## REGISTRATION TO THEMATIC PROFESSIONAL ASSOCIATIONS:

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- **2018-Ongoing:** Member of the Associazione Italiana Tecnologie Manifatturiere, **A.I.TE.M.**, <https://www.aitem.org/>
- **2016-Ongoing:** Alumnus of **Mentors4u**, <https://www.mentors4u.com/>

## OTHER ACTIVITIES AND HOBBIES:

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- **2018-Ongoing:** Volunteer at Ce.Pi.M., Centro Persone Down. Torino, <http://www.fondazionecepim.it/>