

Elisa VERNA



03/13/1992 ALBA (CN) ITALY

Nationality: Italian

📍 Strada Vedetta, 164 12051 - ALBA (CN) ITALY

📞 3200952376 ☎️ 017335314

✉️ elisa.verna@polito.it

elisaverna92@gmail.com

🔗 [https://www.digep.polito.it/personale/scheda/\(nominativo\)/elisa.verna](https://www.digep.polito.it/personale/scheda/(nominativo)/elisa.verna)

🌐 <https://it.linkedin.com/in/elisa-verna-a21b99115>

EDUCATION

05/04/2017 - 03/19/2021

Ph.D. in Management, Production and Design

Politecnico di Torino

Thesis: Inspection Strategies and Defect Prediction Models for quality control in low-volume productions

Final grade: cum laude

Research activities: Quality control for low-volume productions, with particular attention to the development of defect prediction models, methods to assess inspection effectiveness and cost, and the design of suitable quality inspections. Different types of industrial processes considered, including assembly and additive manufacturing processes, in which in-process and offline inspections can be performed by humans, machines, or human-machine collaboration.

10/18/2014 - 12/02/2016

Master's Degree in Industrial Engineering and Management

Politecnico di Torino

Thesis: Facility Management: planning of a Services Charter

Final grade: 110/110 cum laude

Laurea Magistrale in Ingegneria gestionale (classe LM-31)

09/12/2011 - 10/16/2014

Bachelor's Degree in Industrial Engineering and Management

Politecnico di Torino

Thesis: "FTS S.p.A.: relationships between customer analysis in the supply chain and new distribution channels"

Final grade: 103/110

Laurea in Ingegneria Gestionale, Classe delle lauree in INGEGNERIA GESTIONALE (L-9)

2011

High school diploma MATURITA' SCIENTIFICA SPERIMENT. LINGUISTICO

Final grade: 100/100

INTERNATIONAL EXPERIENCE

07/02/2019 - 10/12/2019

E+/EU PROGRAMME COUNTRIES

University of Dublin - Trinity College - DUBLIN - IRELAND

Study and improvement of wear response of composite coatings produced with the Cold Spray technology. Characterization of coatings in terms of microstructure and tribological performance. Design of experiments to evaluate the erosion response of coatings produced with Cold spray technology.

- 07/01/2021 - Present **Postdoctoral researcher at DIGEP – Department of Management and Production Engineering**
Politecnico di Torino
Project: “Metodologie per la progettazione e la valutazione della Qualità in contesti di interazione/integrazione uomo-macchina (acronimo MQMMI)”.
Research activities: Development of advanced procedures for inspection and quality control of product and process in contexts of human-machine interaction/integration and identification of strategies for their improvement. Definition of performance indicators for quality controls performed in emerging automated production systems.
Additional activities:
- Support in tutoring students in the development of MSc final projects, also in collaboration with industrial partners (Lavazza, Tosa Group S.p.A., Pompe Garbarino S.p.A.).
 - Support to the Coordination Committee in the project management of the “Dipartimento di Eccellenza” Project (“Ministero dell’Istruzione, dell’Università e della Ricerca” Award “TESUN-83486178370409 finanziamento dipartimenti di eccellenza CAP. 1694 TIT. 232 ART. 6.”)
- 11/01/2020 - 06/30/2021 **Research Fellow at DIGEP – Department of Management and Production Engineering**
Politecnico di Torino
Project: “Metodologie per la progettazione e la valutazione della Qualità in contesti di interazione/integrazione uomo-macchina (acronimo MQMMI)”.
Research activities: Development of advanced procedures for inspection and quality control of product and process in contexts of human-machine interaction/integration and identification of strategies for their improvement. Definition of performance indicators for quality controls performed in emerging automated production systems.
Additional activities:
- Support in tutoring students in the development of MSc final projects, also in collaboration with industrial partners (Lavazza, Tosa Group S.p.A., Pompe Garbarino S.p.A.).
 - Support to the Coordination Committee in the project management of the “Dipartimento di Eccellenza” Project (“Ministero dell’Istruzione, dell’Università e della Ricerca” Award “TESUN-83486178370409 finanziamento dipartimenti di eccellenza CAP. 1694 TIT. 232 ART. 6.”)
- 05/04/2017 - 03/19/2021 **PhD Student at DIGEP – Department of Management and Production Engineering**
Politecnico di Torino
Research Project: “Inspection strategies and defect prediction models for quality control of low-volume productions”.
Research activities: quality control and management, statistical process control, design of experiments, statistical data analysis, inspection planning, performance measures.
Additional activities:
- Support in tutoring students in the development of MSc final projects, also in collaboration with industrial partners (Lavazza, Tosa Group S.p.A.).
 - Collaboration with the Coordination Committee within the “Dipartimento di Eccellenza” Project (“Ministero dell’Istruzione, dell’Università e della Ricerca” Award “TESUN-83486178370409 finanziamento dipartimenti di eccellenza CAP. 1694 TIT. 232 ART. 6.”) for project management activities and creation of the Mind4Lab laboratory logo.
 - Organization of DIGEP Seminars and PhD Lunch Seminars.
- 03/14/2016 - 10/15/2016 **Internship, Facility Department**
Ferrero S.p.A. - Alba (CN) - ITALY
Activities: Design and development of a “Carta dei Servizi” for the employees, in collaboration with the Facility Department and the IT area for the implementation of the IT tool. Support activities to the facility manager in the definition of budgets and other managerial/organizational activities.

- 03/01/2015 - 06/01/2016 [Internship, Marketing](#)
 FTS S.p.A. - Alba (CN) - ITALY
Internship at FTS S.p.A., a company in the automotive sector. Activities related to the design and implementation of questionnaires to be submitted to a sample of customers with the aim of assessing customer satisfaction and identifying the needs for new products to be included in the portfolio.
- [Teaching activities](#)
- 01/18/2021 - 09/26/2021 [Teaching Assistant for the course Statistica Sperimentale e Misure Meccaniche 09EDMMN, Academic Year 2020/2021.](#)
 Politecnico di Torino - Turin - ITALY
Teaching Assistant for the course Statistica Sperimentale e Misure Meccaniche (Experimental Statistics and Mechanical Measurement) 09EDMMN a.y. 2020/2021
Bachelor's degree programme in INGEGNERIA MECCANICA (MECHANICAL ENGINEERING)
 Campus: TORINO
 Semester: from 03/01/2021 to 06/12/2021
 Total number of hours: 54 (Laboratory classes)
 Contract extension: from 01/18/2021 to 09/26/2021
- 01/20/2020 - 09/27/2020 [Teaching Assistant for the course Statistica Sperimentale e Misure Meccaniche 09EDMMN, Academic Year 2019/2020.](#)
 Politecnico di Torino - Turin - ITALY
Teaching Assistant for the course Statistica Sperimentale e Misure Meccaniche (Experimental Statistics and Mechanical Measurement) 09EDMMN a.y. 2019/2020
Bachelor's degree programme in INGEGNERIA MECCANICA (MECHANICAL ENGINEERING)
 Campus: TORINO
 Semester: from 03/02/2020 to 06/13/2020
 Total number of hours: 54 (Laboratory classes)
 Contract extension: from 01/20/2020 to 09/27/2020
- 09/30/2019 - 09/27/2020 [Teaching Assistant for the course Gestione Industriale della Qualità 02BDYMN, Academic Year 2019/2020.](#)
 Politecnico di Torino - Turin - ITALY
Teaching Assistant for the course Gestione Industriale della Qualità (Industrial Quality Management) 02BDYMN a.y. 2019/2020
Optional course of the Politecnico di Torino Bachelor's degree programmes
 Campus: TORINO
 Semester: from 09/30/2019 to 01/18/2020
 Total number of hours: 3 (Lectures)
 Contract extension: from 09/30/2019 to 09/27/2020
- 09/30/2019 - 09/27/2020 [Teaching Assistant for the course Ingegneria della Qualità 01NBAPG, Academic Year 2019/2020.](#)
 Politecnico di Torino - Turin - ITALY
Teaching Assistant for the course Ingegneria della Qualità (Quality Engineering) 01NBAPG a.y. 2019/2020
Master's degree programme in INGEGNERIA GESTIONALE (INDUSTRIAL ENGINEERING AND MANAGEMENT)
 Campus: TORINO
 Semester: from 09/30/2019 to 01/18/2020
 Total number of hours: 10.5 (Classroom exercises)
 Contract extension: from 09/30/2019 to 09/27/2020
- 01/21/2019 - 09/30/2019 [Teaching Assistant for the course Statistica Sperimentale e Misure Meccaniche 09EDMMN, Academic Year 2018/2019](#)
 Politecnico di Torino - Turin - ITALY
Teaching Assistant for the course Statistica Sperimentale e Misure Meccaniche (Experimental Statistics and Mechanical Measurement) 09EDMMN a.y. 2018/2019
Bachelor's degree programme in INGEGNERIA MECCANICA (MECHANICAL ENGINEERING)
 Campus: TORINO
 Semester: from 03/04/2019 to 06/15/2019
 Total number of hours: 29 (Laboratory classes)
 Contract extension: from 01/21/2019 to 09/30/2019

PROJECTS

- 07/08/2020 - 07/29/2020 [Collaboration within the Project "Prestazione didattica sulle tematiche del Controllo Statistico della Qualità \(SPC\) da erogarsi presso la sede Caffitaly System S.p.A. di Capriate San Gervasio \(BG\)".](#)
Politecnico di Torino and Caffitaly System S.p.A. - Capriate San Gervasio (BG) - ITALY
Definition and preparation of case studies concerning statistical process control (sampling plans and control charts).
- 07/17/2019 - 09/30/2019 [Collaboration within the Project "Studio e analisi della capability del processo di termoformatura delle capsule dei sistemi proprietari Lavazza S.p.A. A MODO MIO, BLUE e FIRMA, presso gli stabilimenti Lavazza S.p.A.".](#)
Politecnico di Torino and Lavazza S.p.A. - Turin - ITALY
Design of experimental plans, process capability analysis, data analysis, statistical process control.
- 01/07/2018 - 04/06/2018
- | | UNDERSTANDING | | SPEAKING | | WRITING |
|---------|---------------|---------|--------------------|-------------------|---------|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | B2 | B2 | B2 | B2 | B2 |
| French | B1 | B1 | B1 | B1 | B1 |
- [Collaboration within the Project "Predisposizione di un piano sperimentale \(DoE\) e analisi statistica dei dati per l'ottimizzazione del processo di degasaggio e del processo di produzione dei prodotti "NCC lunghi".](#)
Politecnico di Torino and Lavazza S.p.A. - Turin - ITALY
Design of experiments, statistical data analysis, quality control and management.
- 01/01/2018 - 12/31/2018 [Collaboration within the Project FCA-POLITO 2018 "Quality control of surface mechanical properties and topographical features of manufacts by Additive Manufacturing".](#)
Fiat Chrysler Automobili N.V. - Turin - ITALY
Design of experiments, statistical data analysis, quality control and management, design of inspections.

LANGUAGE SKILLS

Mother tongue Italian
Other languages

Language certificates

2012 International English Language Testing System (IELTS) : 6 (competent user)
2010 PRELIMINARY ENGLISH TEST Council of Europe Level B1 : PASS
2009 Diplôme d'études en langue française DELF B1 : 88/100

COMPUTER SKILLS

OPERATING SYSTEM Windows, Android
advanced level

PROGRAMMING C, MATLAB
LANGUAGE/CODE good level

PROGRAMS/SOFTWARE Microsoft Office (Word, Excel, PowerPoint). Statistical software: Minitab and SPSS advanced level

DATABASES E-R diagrams, SQL language
intermediate level

GRAPHICS	Microsoft Visio e Astah good level
SPREADSHEET	Excel advanced level
OTHER	SAP, Microsoft Project, Rapid Miner

PERSONAL SKILLS/OTHER SKILLS

Certificates	Decision making, team and project management, problem-solving, teamwork, multitasking, making schedules, attention to detail, developing strategies.
2017	ETS General Test (GRE)
2016	IPMA (International Project Management Association) ITALY INTRODUCTORY LEVEL

AWARDS

2020	Quality Award 2019 of PhD in Management, Production and Design Awarded by the SCUDO (Doctoral School of Politecnico di Torino) with the Quality Award for the year 2019 as one of the best PhD candidates of the 33 rd cycle of the PhD in Management, Production and Design.
2020	Invitation to chair a session during the CIRP CATS 2020 I was invited by the CIRP CATS 2020 organizing team to chair the session "Session 6 - Assembly Processes and Technologies" during the 8th CIRP Conference on Assembly Technologies and Systems on September 30th, 2020.
2019	Grant ERASMUS+/PROGRAMME COUNTRIES – PhD Winner of the grant ERASMUS+/PROGRAMME COUNTRIES – PhD for the visiting period at Trinity College Dublin.
2018	Grant for research activities with the company Lavazza S.p.A. Winner of the research grant "Predisposizione di un piano sperimentale (DoE) e analisi statistica dei dati per l'ottimizzazione del processo di degasaggio e del processo di produzione dei prodotti "NCC lunghi" presso gli stabilimenti Lavazza S.P.A", determina n. 1725/2018., for 3 months.
2018	Best Paper Award at the 3rd International Conference on Quality Engineering and Management 2018 The paper "Robustness analysis of inspection design parameters for assembly of short-run manufacturing processes" was recognized by the 3rd International Conference on Quality Engineering and Management 2018 Scientific Committee with the Best Paper Award ICQEM18.
2016	Mentee at Mentors4u program Selected (top 25%) to participate to Mentors4u, a merit-based undergraduate mentoring 2016 program.

EXTRACURRICULAR ACTIVITIES AND HOBBIES

Volunteering, Children's entertainer, Tutoring lessons

OTHER INFORMATION

Driving license, own car

Available to travel on business in Italy, abroad

Available to relocate in Italy, abroad

PUBLICATIONS

- 2018 Galetto, Maurizio; Verna, Elisa; Genta, Gianfranco; Franceschini, Fiorenzo (2018), Robustness analysis of inspection design parameters for assembly of short-run manufacturing processes, In: Berbegal-Mirabent J, Marimon F, Casadesús M, Sampaio P (eds), Proceedings book of the 3rd International Conference on Quality Engineering and Management. International Conference on Quality Engineering and Management, 11-14 July, Barcelona, Spain, pp. 255–274, ISBN: 978-989-20-8521-0, URL: http://icqem.dps.uminho.pt/icqem18_proceedingsbook.pdf
- 2019 Verna, Elisa; Genta, Gianfranco; Franceschini, Fiorenzo; Galetto, Maurizio (2019), Assessment of inspection strategies in assembly manufacturing processes, In: Book of Abstracts, itENBIS and INRIM Joint Workshop Mathematical and Statistical Methods for Metrology - MSMM 2019, Torino, 30-31 May 2019, pp. 25-26, URL: <http://www.msmm2019.polito.it/programme>
- 2019 Verna, Elisa; Genta, Gianfranco; Galetto, Maurizio; Franceschini, Fiorenzo (2019), Designing offline inspection strategies for Selective Laser Melting Additive Manufacturing processes, In: Proceedings of the XIV Convegno dell'Associazione Italiana Tecnologie Manifatturiere. Associazione Italiana Tecnologie Manifatturiere, Padova (Italy), 09-11 September 2019.
- 2019 Verna, Elisa; Genta, Gianfranco; Galetto, Maurizio; Franceschini, Fiorenzo (2019), Designing quality inspection in short-run assembly processes of wrapping machines, In: The Portuguese Association for Quality (APQ) and The European Organization for Quality (EOQ) (eds), Book of Abstract of the 63rd European Congress of Quality. EOQ Congress 2019 - Rediscovering quality, Lisbon, 23-24 October 2019, p. 15, URL: http://eoqcongress2019.apq.pt/wp-content/uploads/2019/10/EOQCongress2019_Book_of_Abstracts.pdf
- 2020 Galetto, Maurizio; Genta, Gianfranco; Maculotti, Giacomo; Verna, Elisa (2020) Defect Probability Estimation for Hardness-Optimised Parts by Selective Laser Melting, INTERNATIONAL JOURNAL OF PRECISION ENGINEERING AND MANUFACTURING, 21(9):1739-1753, ISSN 2234-7593, DOI: 10.1007/s12541-020-00381-1, URL: <https://doi.org/10.1007/s12541-020-00381-1>
- 2020 Galetto, Maurizio; Verna, Elisa; Genta, Gianfranco (2020), Accurate estimation of prediction models for operator-induced defects in assembly manufacturing processes, QUALITY ENGINEERING, 32(4): 595-613, ISSN 0898-2112, DOI: 10.1080/08982112.2019.1700274, URL: <https://www.tandfonline.com/doi/full/10.1080/08982112.2019.1700274>
- 2020 Galetto, Maurizio; Verna, Elisa; Genta, Gianfranco; Franceschini, Fiorenzo (2020), Uncertainty evaluation in the prediction of defects and costs for quality inspection planning in low-volume productions, THE INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, 108(11):3793-3805, ISSN 1433-3015, DOI: 10.1007/s00170-020-05356-0, URL: <http://link.springer.com/article/10.1007/s00170-020-05356-0>
- 2020 Verna, Elisa; Biagi, Roberto; Kazasidis, Marios; Galetto, Maurizio; Bemporad, Edoardo; Lupoi, Rocco (2020), Modeling of Erosion Response of Cold-Sprayed In718-Ni Composite Coating Using Full Factorial Design, COATINGS, 10(4): 335, ISSN 2079-6412, DOI: 10.3390/coatings10040335, URL: <https://www.mdpi.com/2079-6412/10/4/335>
- 2020 Verna, Elisa; Genta, Gianfranco; Galetto, Maurizio; Franceschini, Fiorenzo (2020), Defect prediction model for wrapping machines assembly , In: Proceedings of the 4th International Conference on Quality Engineering and Management. International Conference on Quality Engineering and Management, University of Minho, Braga, Portugal, 21-22 September, pp. 115–134. ISBN: 978-989-54911-0-0, URL: http://icqem.dps.uminho.pt/icqem20_proceedingsbook.pdf
- 2020 Verna, Elisa; Genta, Gianfranco; Galetto, Maurizio; Franceschini, Fiorenzo (2020), Planning offline inspection strategies in low-volume manufacturing processes, QUALITY ENGINEERING, 32(4):705-720, ISSN 0898-2112, DOI:

- 10.1080/08982112.2020.1739309, URL:
<https://www.tandfonline.com/doi/full/10.1080/08982112.2020.1739309>
- 2021 Biagi, Roberto; Verna, Elisa; Bemborad, Edoardo; Galetto, Maurizio; Yin, Shuo; Lupoi, Rocco (2021), Cold Spraying of IN 718-Ni Composite Coatings: Microstructure Characterization and Tribological Performance, Materials Science Forum, 1016: 840-845, DOI: 10.4028/www.scientific.net/MSF.1016.840, URL: <https://doi.org/10.4028/www.scientific.net/MSF.1016.840>
- 2021 Galetto, Maurizio; Verna, Elisa; Genta, Gianfranco (2021), Effect of process parameters on parts quality and process efficiency of Fused Deposition Modeling, COMPUTERS & INDUSTRIAL ENGINEERING, article in press, ISSN 03608352, DOI: 10.1016/j.cie.2021.107238, URL: <https://www.sciencedirect.com/science/article/abs/pii/S036083522100142X>
- 2021 Verna, Elisa (2021), Inspection Strategies and Defect Prediction Models for quality control in low-volume productions, PhD Dissertation, Department of Management and Production Engineering, Politecnico di Torino (Italy).
- 2021 Verna, Elisa; Genta, Gianfranco; Galetto, Maurizio; Franceschini, Fiorenzo (2021), Defect prediction models to improve assembly processes in low-volume productions, Procedia CIRP, 97:148-153, DOI: 10.1016/j.procir.2020.05.217, URL: <https://www.sciencedirect.com/science/article/pii/S2212827120314384>