# Europass Curriculum Vitae

## Personal information


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|---|---|
| First name/Surname | **Giulia Bruno** |
| Telephone | |
| E-mail | giulia.bruno@polito.it |
| Nationality | Italian |
| Date of birth | 17 February 1982 |
| Gender | Female |


## Research activities and projects

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|---|---|
| Dates | 01/2017 → Today |
| Occupation or position held | Assistant Professor - Department of Management and Production Engineering - Politecnico di Torino |
| Main activities and responsibilities | Research on *modelling* and *optimization of industrial processes* and on the *integrated management* of production data. The effective management of production data is an increasingly current problem, also due to the introduction of the Internet of Things (IoT) in factories. Through the intelligent structuring of the large amounts of data available, even using non-relational databases, it is possible to design Knowledge Management systems to support business decisions, in particular to establish the similarity between products and facilitate product innovation starting from similar products. The results of this research activity have been published in international journals, book chapters and conferences.<br><br>Research in *process simulation* to evaluate the functioning of a system and propose targeted interventions to improve its performance. In particular, discrete event simulation models of various production processes have been developed to test possible improvements to load balancing on operators and energy savings on the use of innovative vehicles for storing and retrieving pallets in automated warehouses. The results of the research activity are conferred on an international conference and journals.<br><br>Participation in *national and international research projects*: “Automazione sicura ed efficiente integrata con Industria 4.0 (SaGrIS4.0, 2017-2019)”, “Social Network based doctoral Education on Industry 4.0 (Thiphys, 2017-2020)”, Progetto regionale Piattaforma Tecnologica Fabbrica Intelligente "Hierarchical Open Manufacturing Europe" (HOME, 2018-2020), IoT4Industry project “Real Time Production Planning (RTPP, 2019-2020)”. |
| Dates | 03/2012 → 30/11/2017 |
| Occupation or position held | Post-doc researcher - Department of Management and Production Engineering - Politecnico di Torino |
| Main activities and responsibilities | *Responsible of a WP of the EU-FP7 project* “Advanced Platform for Manufacturing Engineering and Product Lifecycle Management (amePLM 2011-2015)”. The research activity in the WP is focused on the development of a semantic model for the advanced management of product lifecycle. This activity promoted the collaboration with European partners and included the presentation of WP results in technical, project and review meetings.<br><br>Collaboration with the *Healthcare Territorial Agency* of the Asti province (ASL-AT) for the analysis of patients’ log data.<br><br>Research on *SME network analysis* and contractual models.<br><br>Applicability analysis of *human-robot collaboration* in production systems. |


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|---|---|
| Dates | 01/2011 → 03/2011 |
| Occupation or position held | ICT Consultant - Institute for Cancer Research and Treatment (IRCC), Candiolo, Torino |
| Main activities and responsibilities | *Feasibility study* of an informative system to manage experimental data from tissue samples to DNA microarray for cancer research. |

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|---|---|
| Dates | 03/2009 → 02/2012 |
| Occupation or position held | Post-doc researcher - Department of Control and Computer Engineering - Politecnico di Torino |
| Main activities and responsibilities | *Responsible of the design and development of a geographical database* in cloud computing environments to integrate data collected from different sources for biodiversity cataloguing in large naturalistic areas in the "Alpi Latine Cooperazione Transfrontaliera (ALCOTRA)" project.<br>*Participation in the Project of National Interest* "Innovation Networks Health Services with techniques of Supply Chain Management" (PRIN-2007) for the analysis of diagnostic pathways followed by patients and identification of anomalies from medical guidelines.<br>*Research on data mining and bioinformatics*, particularly: (i) anomaly detection in temporal and biological databases, and (ii) microarray data analysis to select genes relevant for tumor classification and other medical data analysis.<br>*Collaborations with Gradenigo Hospital* (Torino) for the analysis of data of patients suffering from GIST cancer, to create models for grading the risk with particular attention to the development of resistance to the drug Imatinib.<br>*Collaboration with the E- Security Lab of the Istituto Superiore M. Boella* (Torino) for the design and implementation of a database for the management of energy consumption. |

## Education

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| Dates | 01/2006→ 12/2008 |
| Title of qualification awarded | Ph.D in Computer and System Engineering (thesis discussion on 1/04/2009) |
| Principal subjects/occupational skills covered | *Research in the field of medical data analysis by means of data mining techniques*.<br>Participation in the Summer School on Bioinformatics and Computational Biology, Lipari, Italy,14-21/06/08.<br>*Collaboration with the Cancer Genomics Lab* at Fondo Edo Tempia (Biella) for microarray data analysis. |
| Name and type of organisation providing education and training | Politecnico di Torino, Italy |

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|---|---|
| Dates | 09/2003 → 09/2005 |
| Title of qualification awarded | Master degree in Computer Engineering |
| Principal subjects/occupational skills covered | Attending courses covering specific topics for software applications. The main project of the thesis was dedicated to develop a patients' monitoring system to analyze physiological signals and automatically detect unsafe situations by means of data mining techniques. Final note: 110 with honors. |
| Name and type of organisation providing education and training | Politecnico di Torino, Italy |

## Fellowship and awards

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|---|---|
| Dates | 09/2014<br>Best Paper Award at the Advances in Production Management System (APMS'14) conference. |
| Dates | 01/2006 → 12/2008<br>PhD scholarship |
| Dates | 03/2006<br>Degree award "In memory of Engineer Arena" for the year 2004/2005. |


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## Presentations

Oral presentations in the following international conferences.

International conferences

- IFIP Working Conference on Virtual Enterprises, September 18-20 2017, Vicenza, Italy
- International Conference on Production Research (ICPR'17), 30 July-3 August 2017, Poznan, Polonia
-International Conference on Energy Planning, Energy Saving, Environmental Education (EPESE '16), October 21-23, 2016, Rome, Italy **(invited paper**)
- IFIP Working Conference on Virtual Enterprises, 3-5 October 2016, Porto, Portugal
- IFAC Conference on Manufacturing Modelling, Management and Control, 28-30 June 2016, Troyes,France
- International Conference on Industrial Engineering and Systems Management (IESM'15), 21-23 October 2015, Seville, Spain
- International conference on circuits, systems, communications, computers and applications (CSCCA'14), November 22-24, 2014, Florence, Italy (**invited paper**)
-IFIP Working Conference on Virtual Enterprises, 6-8 October 2014, Amsterdam, Netherlands
-IFAC Conference on Manufacturing Modelling, Management and Control, 19-23 June 2013, Saint Petersburg, Russia.
- International Workshop on Enterprise Integration, Interoperability and Networking, 12-13 September 2012, Rome, Italy.
- International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, 8-10 September 2010, Cardiff, Wales.
- IEEE International Workshop on Database and Expert Systems Applications, 3-7 September 2007, Regensburg, Germany.
- IEEE International Conference on Intelligent Systems, 4-6 September 2006, London, UK.
- International Integrative Bioinformatics Workshop, 4-6 September 2006, Harpenden, UK.

## Teaching

Lecturer of courses

- *Simulation in production and logistics*, Master degree in Industrial Mechanical Engineering, Free University of Bozen-Bolzano, Italy (2016)
- *Analysis and Management of Production Systems*, Master degree in Management and Production Engineering, Politecnico di Torino, Italy (from 2016)
- *Process innovation*, Master degree in Industrial Production Engineering, Politecnico di Torino, Italy (from 2016)
- *Production Systems*, Bachelor degree in Management and Production Engineering, Politecnico di Torino, Italy (from 2014)
- *Database*, Bachelor degree in Computer Engineering, Politecnico di Torino (from 2007 to 2015)
- *Mathematics foundation*, Bachelor degree in Engineering, Politecnico di Torino (from 2009 to 2012)
- *Introduction to Geodatabases*, intensive two-day course for the Park of the Maritime Alps staff (2011)
- *Techniques and Programming Languages*, Bachelor degree in Cinema and Media Engineering, Politecnico di Torino (2008)
- *Information Systems*, Master degree in Automotive Engineering, Politecnico di Torino (from 2005 to 2007)

## Language skills

Mother tongue(s) **Italian**

Other language(s)

Self-assessment

| *European level (*)* | Understanding | | Speaking | | Writing |
|---|---|---|---|---|---|
| | Listening | Reading | Spoken interaction | Spoken production | |
| **English** | C1 | C2 | C1 | C1 | C2 |
| **French** | B1 | B1 | B1 | B1 | B1 |

*(*) Common European Framework of Reference for Languages*



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## Selected publications


[1] **G. Bruno**, D. Antonelli (2018) Dynamic task classification and assignment for the management of human-robot collaborative teams in workcells, *International Journal of Advanced Manufacturing Technology*, 98 (9-12), pp.2415-2427.

[2] D. Antonelli, **G. Bruno**, T. Taurino (2018). Analysis of patient flows in Elective Surgery: modelling and optimization of the hospitalization process, *International Journal of Services and Operations Management*, 31(4),pp. 513-529.

[3] D. Antonelli, **G. Bruno** (2017) Product Configuration for Order Acquisition and Fulfillment, Mass Customized Manufacturing: Theoretical Concepts and Practical Approaches, Ed. Vladimír Modrák, CRC Press, pp. 167-192.

[4] **G. Bruno**, G. D'Antonio, M. De Maddis (2016), Sustainability Analysis of Autonomous Vehicle Storage and Retrieval Systems, *WSEAS Transactions on Environment and Development*, Vol.12, pp. 299-306.

[5] **G. Bruno**, R. Korf, J. Lentes, N. Zimmermann (2016). Efficient management of product lifecycle information through a semantic platform. *International Journal of Product Lifecycle Management*, 9(1), Inderscience, pp.45-64

[6] **G. Bruno**, T. Taurino, A. Villa (2016). An approach to support SMEs in manufacturing knowledge organization, *Journal of Intelligent Manufacturing*

[7] D. Antonelli, E. Baralis, **G. Bruno**, L. Cagliero, T. Cerquitelli, S. Chiusano, P. Garza, N.A. Mahoto (2015). MeTA: Characterization of medical treatments at different abstraction levels, *ACM Transactions on Intelligent Systems and Technology*. Vol.6 (4), ISSN:2157-6904, DOI: http://dx.doi.org/10.1145/2700479.

[8] **G. Bruno** (2015) Semantic organization of product lifecycle information through a modular ontology (2015), *International Journal of Circuits, Systems and Signal Processing*, Vol. 9, pp.16-26, ISSN: 1998-4464.

[9] **G. Bruno**, D.Antonelli, A. Villa (2015). A reference ontology to support product lifecycle management, *Procedia CIRP*, Elsevier, Vol.33, pp. 41-46, ISSN: 2212-8271 DOI: 10.1016/j.procir.2015.06.009.

[10]D. Antonelli, **G. Bruno**, T. Taurino, A. Villa (2015). Graph-based models to classify effective collaboration in SME networks, *International Journal of Production Research*. Vol. 53(20), pp. 6198-6209, ISSN: 0020-7543, DOI: 10.1080/00207543.2015.1038368.

[11]L. Cagliero, S. Chiusano, P. Garza, **G. Bruno** (2015) Pattern Set Mining with Schema-based Constraint, *Knowledge-Based Systems*. Volume 84, Pages 224–238, ISSN: 0950-7051, DOI: 10.1016/j.knosys.2015.04.023.

[12]**G. Bruno**, E. Gasca, C. Monaco (2014). The efficient management of Park resources: Natural and cultural data in the Alpi Marittime Park area. *Journal of Information Systems*, Vol. 42, pp. 78–88, ISSN: 0306-4379, DOI: http://dx.doi.org/10.1016/j.is.2013.12.001

[13]A. Villa, **G. Bruno** (2013) Promoting SME cooperative aggregations: main criteria and contractual models. *International Journal of Production Research*, Vol. 51(23-24), pp. 7439–7447, ISSN: 0020-7543, DOI: 10.1080/00207543.2013.831503.

[14]D. Antonelli, **G. Bruno**, S. Chiusano (2013) Anomaly detection in medical treatment to discover unusual patient management. *IIE Transactions on Healthcare Systems Engineering*, Vol. 3(2), pp. 69-77, ISSN: 1948-8300, DOI: 10.1080/19488300.2013.787564.

[15]D. Antonelli, E. Baralis, **G. Bruno**, T. Cerquitelli , S. Chiusano, N.A. Mahoto (2013) Analysis of diabetic patients through their examination history. *Expert Systems with Applications*, Vol. 40(11), pp:4672-4678, ISSN 0957-4174, DOI: 10.1016/j.eswa.2013.02.006.


Torino, May 2019



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