

**Europass  
Curriculum Vitae**

**Personal information**

First name(s) / Surname(s)

CASCINI GAETANO

E-mail

Gaetano.cascini@polimi.it

**Work experience**

Dates

Since November 2014

Occupation or position held

Full Professor at Politecnico di Milano, School of Industrial and Information Engineering

Main activities and responsibilities

He coordinates a research team working on the following topics: Methods and tools for inventive design and Computer-Aided support to the innovation pipeline.

Tipo di azienda o settore

He holds the following courses at Politecnico di Milano: 1. Methods for Technical Representation (Ind. Eng.) – 7 ECTS 2. Design Laboratory on Computer-Aided Engineering (Mech. Eng.) – 8 ECTS 3. Methods and Tools for Systematic Innovation: Part A: Problem Solving and Inventive Design; Part B: Innovation and Intellectual Property Management - (MSc Mech. Eng.) – 12 ECTS 4. Design Methods and Processes (Alta Scuola Politecnica, Spring School of the MSc honour program in Engineering, Architecture and Design)

Name and address of employer  
Type of business or sector

Politecnico di Milano, Via la Masa 1, 20156 Milan  
Dept. of Mechanical Engineering

Dates

September 2008 – November 2014

Occupation or position held

Associate professor at Politecnico di Milano, School of Industrial and Information Engineering

Name and address of employer  
Type of business or sector

Politecnico di Milano, Via la Masa 1, 20156 Milan  
Dept. of Mechanical Engineering

Dates

January 1999 – August 2008

Occupation or position held

Assistant Professor – Researcher  
(since 2003) Scientific Coordinator of the Laboratory on Methods and Tools for Innovation

Main activities and responsibilities

Research in Methods and Tools for Machine Design

Name and address of employer  
Type of business or sector

University of Florence  
Dept. Of Mechanics and Industrial Technologies

**Education and training**

Dates

2014

Title of qualification awarded

Qualification as Full Professor

Name and type of organisation  
providing education and training

National Scientific Qualification of the Italian Ministry of Education, Universities and Research

Dates 2006  
 Title of qualification awarded Qualification as Associate Professor  
 Name and type of organisation providing education and training Polytechnic of Bari

Dates 2000  
 Title of qualification awarded PhD in Machine Design  
 Principal subjects/occupational skills covered Thesis: "Rolling contact dynamics: forces, vibrations, noise." (in Italian)  
 Name and type of organisation providing education and training University of Florence

Dates 1996  
 Title of qualification awarded Ms Degree in Mechanical Engineering  
 Principal subjects/occupational skills covered Thesis: "High-Frequency Mobile Input Reconstruction Algorithm (HF-MIRA) Applied to Forces Acting on a Damped Linear Mechanical System" (in Italian)  
 Name and type of organisation providing education and training University of Florence

Personal skills and competencies

**Mother tongue(s)**

Italian

European level (\*)

English

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient User	C1	Proficient User	C1	Proficient User	C1	Proficient User	C1	Proficient User

Organisational skills and competences

**Current:**

Director of studies of the Mechanical Engineering Study Programme of Politecnico di Milano.

Member of the Board of Management of the Design Society.

**Past:**

Member of the Design Society Advisory Board (2013-2017) and Co-Chairman of its Design Creativity Special Interest Group (2013-2018).

Chair of the Education and Training Working Group of CEPIUG (Confederacy of European Patent Information User Groups)

Coordinator and Scientific Responsible of the EU Project "Technology as Cultural Heritage", ref. n. CLT/2005/A1/CH/IT-55

Past-President of ETRIA (European TRIZ Association) (2006-2009) and co-founder/past-president of the Italian Association for Systematic Innovation "Apeiron" (2003-2006).

Past-Chair of the "Computer-Aided Innovation" workgroup and Publication & Events Officer of the TC-5 Committee (Computer Applications in Technology) of IFIP (International Federation for Information Processing) (2009-2013)

Organizing Chairman of the Eighth International Conference on Design Computing and Cognition (DCC18), 2-4 July 2018, Lecco (Italy)

Chairman of the International Conference on Engineering Design (ICED15), 27-30 July 2015, Milan (Italy)

Chairman of the Organizing Committee of the TRIZ Future Conference 2004, 3-5 November 2004, Florence (Italy)

Chairman of the Organizing Committee of the 2nd IFIP Topical Session on Computer-Aided Innovation - Integration of CAI systems in the Product Development cycle, in conjunction with 20th IFIP World Computer Congress, September 7-10, 2008, Milan, Italy.

Editorial roles

**Current:**

Co-editor in Chief of the International Journal of Design Creativity and Innovation, Taylor and Francis (2017-present);

Associate Editor of AI EDAM (Artificial Intelligence for Engineering Design, Analysis and Manufacturing), Cambridge University Press (2018-present);

Associate Editor of Design Science, Cambridge University Press (2020-present);

Member of the Editorial Board of the Journal of Integrated Design & Process Science, IOS Press (2012-present); Associate Editor of the same journal since 2015;

Member of the Editorial Board of Research in Engineering Design, Springer (2014-present).

Selection of Funded projects

Project	Duration (months)	Role	Coordinator	Funding Programme
OPEN-IT: IT Tool to support SMEs in systematic innovation based on open innovation paradigm	24 (2009-11)	Responsible of PoliMI research unit and scientific coordinator	DrWolf	EraSME EU Programme - 5th Call
FORMAT: FOrecast and Roadmapping for MAnufacturing Technologies	48 (2012-15)	Project Coordinator	Politecnico di Milano	Marie Curie FP7- PEOPLE-2011- IAPP/286305
SPARK: Spatial Augmented Reality as a Key for co-creativity	36 (2016-18)	Project Coordinator	Politecnico di Milano	H2020-ICT-19-2015-688417
OIPEC: Open innovation Platform for university-Enterprise Collaboration: new product, business and human capital development	36 (2015-18)	Project Coordinator	Politecnico di Milano	Erasmus CBHE-561869-EPP-1-2015-1-IT-EPPKA2-CBHE-JP
ELPID: E-learning Platform for Innovative Product Development	36 (2018-21)	Responsible of PoliMI research unit	University of Zagreb	Erasmus 2018-1-HR01-KA203-047486

<p>Technical skills and competences</p>	<p>Main fields of activity: methods and techniques for Systematic Innovation, Knowledge Based CAD/CAE tools, Knowledge Management and Patent Mining.</p> <p>Author of more than 120 papers mostly presented at International Conferences and published in authoritative Journals and 15 patents (2 assignee University of Florence, 1 assignee Whirlpool Europe, 3 assignee Bracco Imaging, 2 assignee Otlav and Politecnico di Milano, 1 assignee Logli srl, 1 assignee SCAM srl, 1 assignee Meccaniche Fiorentine, 1 assignee Saes Getters, Rold and Politecnico di Milano, 1 assignee Atlas Copco, 2 assignee Politecnico di Milano).</p> <p>Member of the Design Creativity Special Interest Group of the Design Society since its foundation in 2009.</p> <p>Member of the Working Group on Methodologies for the evaluation of IP rights of the Italian ministry of economic development (Ministero dello Sviluppo Economico – Direzione Generale per la lotta alla contraffazione – UIBM) since 2017.</p> <p>Fellow of Alta Scuola Politecnica (awarded in 2016).</p>
<p>Selected Publications of the last 3 years</p>	<p>A1. Cascini G., Graziosi S., Montagna F., Rotini F.: "On the factors affecting design education within a multi-disciplinary class", <i>Journal of Integrated Design and Process Science</i>, 21(2), 2017, pp. 21-44.</p> <p>A2. Becattini N., Borgianni Y., Cascini G., Rotini F.: "Surprise and design creativity: investigating the drivers of unexpectedness", <i>International Journal of Design Creativity and Innovation</i>, Vol.5 (1-2), 2017, pp. 29-47.</p> <p>A3. Borgianni Y., Cascini G., Rotini F.: "Investigating the future of the Fuzzy Front End: towards a change of paradigm in the very early design phases?", <i>Journal of Engineering Design</i>, 2019.</p> <p>A4. Saliminamin S., Becattini N., Cascini G.: "Sources of creativity stimulation for designing the next generation of technical systems: correlations with R&amp;D designers' performance", <i>Research in Engineering Design</i>, 30(1), 2019, pp.133-153.</p> <p>A5. Casagrande-Seretti A., Montagna F., Altavilla S., Cascini G.: "A Decision Support Model to Assess Technological Paradigms", <i>International Journal of Technology Management</i>, 80(1-2), 2019, pp. 61-84..</p> <p>A6. Jianzhen L., Becattini N., Cascini G., Tan R.: "Testing ideation performance on a large set of designers: effects of analogical distance", <i>International Journal of Design Creativity and Innovation</i>, published online on May 2019.</p> <p>A7. Fiorineschi L., Cascini G., Rotini F., Tonarelli A.: "Versatile grinder technology for the production of wood biofuels", <i>Fuel Processing Technology</i> 197, 2020.</p> <p>A8. Colombo E.F., Shougarian, N., Sinha, K., Cascini, G., de Weck, O. L.: "Value analysis for customizable modular product platforms: theory and case study", <i>Research in Engineering Design</i>, 31(1), 123-140, DOI 10.1007/s00163-019-00326-4.</p> <p>A9. Cascini G., Fiorineschi L., Rotini F.: "Impact of design representations on creativity of design outcomes", <i>Journal of Integrated Design and Process Science</i>, 23(2), 2020, pp. 31-60.</p> <p>A10. Becattini N., Borgianni Y., Cascini G., Rotini F.: "Investigating users' reactions to surprising products", <i>Design Studies</i>, 69, 2020.</p> <p>A11. G. Cascini*, J. O'Hare, E. Dekoninck, N. Becattini, J.F. Boujut, F. Ben Guefrache, I. Carli, G. Caruso, L. Giunta, F. Morosi: "Exploring the use of AR technology for co-creative product and packaging design", <i>Computers in Industry</i>, in Press, 2020.</p>
<p>Best paper awards and citations</p>	<p>On 27 September 2020, the Scopus database counted an overall amount of 1083 citations to the publications (co)authored by Gaetano Cascini, with a resulting h-index equal to 18.</p> <p>The paper: Cascini G., Zini M., "Measuring patent similarity by comparing inventions functional trees", <i>Proceedings of the 2nd Topical Session on Computer-Aided Innovation, 20th IFIP World Computer Congress, 7-10 September 2008, Milan, Italy</i>, published on "Computers-Aided Innovation", Springer 2008, has been awarded as "Best paper" of the Computer-Aided Innovation Topical Session of the World Computer Congress 2008.</p>

The paper: Cascini G., Rotini F., Russo D., "Functional modeling for TRIZ-based evolutionary analyses" has received the "Outstanding Paper Award" at the 17th International Conference on Engineering Design (ICED), 24-27 August 2009, Stanford, Usa.

The paper: Borgianni Y., Cascini G., Rotini F., "Assessing creativity of design projects: criteria for the service engineering field", International Journal of Design Creativity and Innovation, 1(3), 2013, pp. 131-159 has been awarded as "Distinguished article" of 2013.

The paper: Cascini G., Fantoni G., Montagna F.: "Situating Needs and Requirements in the FBS framework" has been awarded as one of the 5 most highly cited papers published in Design Studies during the period 2014-2016.

The paper: Mombeshora M., Dekoninck E., O'Hare J., Boujut J.F., Cascini G.: "Applying Multiple Metrics in the Performance Measurement of Design Sessions in Industry: A Co-Design Case Study", Proceedings of the 21st International Conference on Engineering Design (ICED17), Vancouver, Canada, 21-25 August 2017 has been awarded as "Reviewers' favourite" among those published at ICED17 Conference.

The paper: Ben Guefrache F., Masclet C., Prudhomme G., Cascini G., O'Hare J.: "Real-time coding method for capture of artefact-centric interactions in co-creative design sessions", Proceedings of the Design 2018 Conference, 21-24 May 2018, Dubrovnik has been awarded as "Reviewers' favourite" among those published at Design 2018 Conference.

## Supervisor of PhD Theses

### PhD Thesis at the University of Florence:

- Davide Russo: "Dalla multidisciplinarietà degli ingegneri del Rinascimento alla gestione della complessità nei processi di innovazione e forecasting tecnologico", (from multi-disciplinarity of Renaissance Engineers to the management of complexity within innovation and technological forecasting processes"; Supervisors: Prof. Paolo Rissone, Dr. Gaetano Cascini, Dr. Romano Nanni (2004-2006). Awarded as the best PhD Thesis in 2007 at Bernardo Nobile Prize of Consorzio per l'AREA di Ricerca Scientifica e Tecnologica di Trieste.
- Federico Rotini: "Re-engineering of Products and Processes through a value oriented approach", Supervisor: Prof. Gaetano Cascini, 2008-2010.

### PhD Thesis at Politecnico di Milano:

- Filippo Silipigni: "Approccio sistematico alla definizione di nuovi mercati per tecnologie e processi esistenti" (A systematic approach to the identification of new markets for existing technologies and processes), Supervisor: Prof. Gaetano Cascini, 2008-2010.
- Walter D'Anna: "Channeling resources for Innovation in Sustainable Design", Supervisor: Prof. Gaetano Cascini, 2009-2013.
- Niccolo Becattini: "Requirements Identification and Characterization in Innovation Processes", Supervisor: Prof. Gaetano Cascini, 2010-2013.
- Alessandro Baldussu: "A problem solving methodology for the development of Bio-Inspired Products. Systematic use of Natural Design Principles for designers without Biological Knowledge", Supervisor: Prof. Gaetano Cascini, 2009-2012.
- Marco Citro: "The hedgehog shape memory alloys based shock absorber", Supervisor: Prof. Gaetano Cascini, 2012-2015.
- Francesco Pucillo: "A methodology for affording user experiences", Supervisor: Prof. Gaetano Cascini, 2012-2015.
- Christopher Nikulin Chandia: "A Method for Forecasting Design Requirements Based on Experts' Knowledge and Logistic Growth Model", Supervisor: Prof. Gaetano Cascini, 2012-2015.
- Edoardo Filippo Colombo: "Open innovation meets changeability: strategic design analyses for customizable cyber-physical industry platforms", Supervisor: Prof. Gaetano Cascini, 2013-2016.
- Sara Saliminamin: "Serious game for the next generation of technical systems: To improve the capabilities of R&D engineer in proposing ideas for the next generations of technical systems", Supervisor: Prof. Gaetano Cascini, 2013-2017.
- Mehdi Parvin: "Improving ideas novelty based on OTSM-TRIZ model of contradiction", Supervisor: Prof. Gaetano Cascini, 2013-2017.
- Federico Morosi: "Projector-based spatial augmented reality for collaborative design activities: application and interaction", Supervisor: Prof. Gaetano Cascini, 2017-2020.

Milan, September 27, 2020