

Publication List

Books

- L1 Rotini F., Borgianni Y., Cascini G.: **"Re-engineering of Products and Processes - How to achieve global success in the changing marketplace"**, Springer, London, United Kingdom, 2012.

International Journals

- A1 Borgianni Y., Cascini G., Rotini F.: **"Process Value Analysis for Business Process Re-engineering"**, Proceedings of IMechE, Part B: Journal of Engineering Manufacture, 224(2), 2010, pp. 305-327. DOI: 10.1243/09544054JEM1460.
- A2 Borgianni Y., Cascini G., Rotini F.: **"Wood pellet manufacturing improvements through product-driven Process Value Analysis"**, Proceedings of IMechE, Part B: Journal of Engineering Manufacture, 225(5), 2011, pp. 761-772. DOI: 10.1243/09544054JEM2067.
- A3 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"Model and Algorithm for Computer-Aided Inventive Problem Analysis"**, Computer-Aided Design, 44(10), 2012, pp. 961-986. DOI: 10.1016/j.cad.2011.02.013.
- A4 Borgianni Y., Cascini G., Rotini F.: **"Investigating the patterns of value-oriented innovations in Blue Ocean Strategy™"**, International Journal of Innovation Science, 4(3), 2012, pp. 123-142. DOI: 10.1260/1757-2223.4.3.123.
- A5 Borgianni Y., Rotini F.: **"Innovation Trajectories within the Support of Decisions: Insights about S-Curve and Dominant Design Models"**, International Journal of Innovation Science, 4(4), 2012, pp. 259-267. DOI: 10.1260/1757-2223.4.4.259.
- A6 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"A TRIZ-based CAI Framework to guide Engineering Students towards a Broad-spectrum Investigation of Inventive Technical Problems"**, International Journal of Engineering Education, 29(2), 2013, pp. 318-333.
- A7 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"About the Introduction of a Dialogue-Based Interaction within CAD Systems"**, Computer-Aided Design and Applications, 10(3), 2013, pp. 499-514. DOI: 10.3722/cadaps.2013.499-514.
- A8 Borgianni Y., Cascini G., Pucillo, F., Rotini F.: **"Supporting product design by anticipating the success chances of new value profiles"**, Computers in Industry, 64(4), 2013, pp. 421-435. DOI: 10.1016/j.compind.2013.02.004.
- A9 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. DOI: 10.1080/21650349.2013.806029
- A10 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"Question/answer techniques within CAD environments: an investigation about the most effective interfaces"**, Computer-Aided Design and Applications, 10(6), 2013, pp. 905-917. DOI: 10.3722/cadaps.2013.905-917.
- A11 Borgianni Y., Rotini F.: **"Towards the fine-tuning of a predictive Kano model for supporting product and service design"**, Total Quality Management & Business Excellence, 26(3-4), 2015, pp. 263-283. DOI: 10.1080/14783363.2013.791119.
- A12 Borgianni Y., Cascini G., Rotini F.: **"Business Process Reengineering driven by customer value: a support for undertaking decisions under uncertainty conditions"**, Computers in Industry, 68, 2015, pp. 132-147. DOI: 10.1016/j.compind.2015.01.001.
- A13 Borgianni Y., Rotini F.: **"Predicting the competitive advantage of design projects to dynamically support decisions in product development"**, International Journal of Product Development, 20(15), 2015, pp. 355-381. DOI: 10.1504/IJPD.2015.073066.
- A14 Bacciotti D., Borgianni Y., Rotini F.: **"An original design approach for stimulating the ideation of new product features"**, Computers in Industry, 75, 2016, pp. 80-100. DOI:

- 10.1016/j.compind.2015.06.004.
- A15 Bacciotti D., Borgianni Y., Rotini F.: "**A CAD Tool to Support Idea Generation in the Product Planning Phase**", Computer-Aided Design & Applications, 13(4), 2016, pp. 490-502. DOI: 10.1080/16864360.2015.1131543
- A16 Bacciotti D., Borgianni Y., Cascini G., Rotini F.: "**Product Planning techniques: investigating the differences between research trajectories and industry expectations**", Research in Engineering Design, 27(4), 2016, pp. 367-389. DOI: 10.1007/s00163-016-0223-6.
- A17 Chechurin L., Borgianni Y., "**Understanding TRIZ through the review of top cited publications**", Computers in Industry, 82, 2016, pp. 119-134. DOI: 10.1016/j.compind.2016.06.002.
- A18 Becattini N., Borgianni Y., Cascini G., Rotini F.: "**Surprise and design creativity: investigating the drivers of unexpectedness**", International Journal of Design Creativity and Innovation, 5(1-2), 2017, 29-47. DOI: 10.1080/21650349.2015.1090913
- A19 Borgianni Y.: "**Verifying dynamic Kano's model to support new product/service development**", Journal of Industrial Engineering and Management, 11(3), 2018, 569-587. DOI: 10.3926/jiem.2591.
- A20 Annarelli A., Battistella C., Borgianni Y., Nonino F.: "**Estimating the value of servitization: a non-monetary method based on forecasted competitive advantage**", Journal of Cleaner Production, 200, 2018, 74-85. DOI: 10.1016/j.jclepro.2018.07.220
- A21 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?**", Journal of Engineering Design, 29(11), 2018, 644-664. DOI: 10.1080/09544828.2018.1520971
- A22 Mark B.G., Rauch E., Borgianni Y., Matt D.T.: "**Eye Tracking in Production 4.0 - Eye Tracking as a useful Technology for Improving Production Processes in the Age of Industry 4.0**". Zeitschrift für wirtschaftlichen Fabrikbetrieb ZWF, 114(1-2), 2019, 72-75. DOI: 10.3139/104.112032
- A23 Maccioni L., Borgianni Y., Basso D.: "**Value perception of green products: an exploratory study combining conscious answers and unconscious behavioral aspects**", Sustainability, 11(5), 2019, 1226. DOI: 10.3390/su11051226
- A24 Borgianni Y., Maccioni L., Basso D.: "**Exploratory study on the perception of additively manufactured end-use products with specific questionnaires and eye-tracking**", International Journal on Interactive Design and Manufacturing, 2019, in press. DOI: 10.1007/s12008-019-00563-w

International Conferences

- B1 Borgianni Y., Cascini G., Rotini F.: "**Product-driven Process Value Analysis**", Proceedings of the 20th CIRP Design Conference, Nantes, France, April 19th-21st, 2010. DOI: 10.1007/978-3-642-15973-2-38
- B2 Borgianni Y., Cardillo A., Cascini G., Rotini F.: "**Systematizing new value proposition through a TRIZ-based classification of functional features**", Proceedings of the 10th ETRIA TRIZ Future Conference (sponsored by CIRP), Bergamo, Italy, November 3rd-5th, 2010; republished on Procedia Engineering, 9, 2011, pp. 103-118. DOI: 10.1016/j.proeng.2011.03.104
- B3 Becattini N., Borgianni Y., Cascini G., Rotini F.: "**Coaching the Cognitive Processes of Inventive Problem Solving with a Computer**", Proceedings of the First International Conference on Design Creativity (ICDC2010), Kobe, Japan, November 29th- December 1st, 2010.
- B4 Becattini N., Borgianni Y., Cascini G., Rotini F.: "**Computer-Aided Problem Solving - Part 1: Objectives, Approaches, Identification of System Requirements**", Proceedings of the 4th IFIP Working Conference on Computer-Aided Innovation, Strasbourg, France, June 30th-July 1st, 2011. DOI: 10.1007/978-3-642-22182-8_10
- B5 Becattini N., Borgianni Y., Cascini G., Rotini F.: "**Computer-Aided Problem Solving - Part 2: a Dialogue-Based System to Support the Analysis of Inventive Problems**", Proceedings of the 4th IFIP Working Conference on Computer-Aided Innovation, Strasbourg, France, June 30th-July 1st, 2011. DOI: 10.1007/978-3-642-22182-8_11

- B6 Borgianni Y., Cascini G., Rotini F.: **"Evaluating the effects of poorly performed product development phases on customer satisfaction"**, Proceedings of the 21st CIRP Design Conference, Daejeon, South Korea, March 27th-29th, 2011.
- B7 Borgianni Y., Cardillo A., Cascini G., Rotini F.: **"Design of Innovative Product Profiles: Anticipatory Estimation of Success Potential"**, Proceedings of the 18th International Conference on Engineering Design (ICED 11), Impacting Society through Engineering Design, Vol. 9: Design Methods and Tools pt. 1, Lyngby/Copenhagen, Denmark, August 15th-18th, 2011, pp. 246-256.
- B8 Borgianni Y., Cascini G., Rotini F.: **"Preliminary studies on human approaches to inventive design tasks with a TRIZ perspective"**, Proceedings of the 11th ETRIA TRIZ Future Conference (sponsored by CIRP), Dublin, Ireland, November 2nd-4th, 2011; republished on Procedia Engineering, 131, pp. 39-49. DOI: 10.1016/j.proeng.2015.12.346
- B9 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"Assessing the performance of computerized tools for inventive design: insights from unsatisfactory outcomes"**, Proceedings of the 22nd CIRP Design Conference, Bangalore, India, March 28th-30th, 2012. DOI: 10.1007/978-1-4471-4507-3_10
- B10 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"Experiencing Protocol Analysis for computer guided design tasks"**, Proceedings of DESIGN 2012, the 12th International Design Conference, Dubrovnik, Croatia, May 21st-24th, 2012, pp. 1821-1830.
- B11 Borgianni Y., Cascini G., Rotini F.: **"A proposal of metrics to assess the creativity of designed services"**, Proceedings of the Second International Conference on Design Creativity (ICDC2012), Glasgow, United Kingdom, September 18th-20th, 2012.
- B12 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"ARIZ85 and patent-driven knowledge support"**, Proceedings of the 12th ETRIA TRIZ Future Conference (sponsored by CIRP), Lisbon, Portugal, October 24th-26th, 2012; republished on Procedia Engineering, 131, pp. 291-302. DOI: 10.1016/j.proeng.2015.12.391
- B13 Borgianni Y., Frillici F.S., Rotini F.: **"Integration of OTSM-TRIZ and Analytic Hierarchy Process for choosing the right solution"**, Proceedings of the 12th ETRIA TRIZ Future Conference (sponsored by CIRP), Lisbon, Portugal, October 24th-26th, 2012; republished on Procedia Engineering, 131, pp. 388-400. DOI: 10.1016/j.proeng.2015.12.431
- B14 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"Does experience in design and innovation affect the perception of creativity?"**, Proceedings of the 19th International Conference on Engineering Design (ICED13), Design for Harmonies, Vol.7: Human Behaviour in Design, Seoul, Korea, August 19th-22nd, 2013, pp. 129-138.
- B15 Bacciotti D., Borgianni Y., Rotini F.: **"Overview of methods supporting product planning: open research issues"**, Proceedings of the 19th International Conference on Engineering Design (ICED13), Design for Harmonies, Vol.1: Design Processes, Seoul, Korea, August 19th-22nd, 2013, pp. 389-398.
- B16 Borgianni Y., Rotini F.: **"Supporting the choice of design alternatives underlying incremental and radical innovations"**, Proceedings of DESIGN 2014, the 13th International Design Conference, Dubrovnik, Croatia, May 19th-22nd, 2014, pp. 1463-1472.
- B17 Bacciotti D., Borgianni Y., Rotini F.: **"Exploring the dimensions of value: the four dimensions framework"**, Proceedings of DESIGN 2014, the 13th International Design Conference, Dubrovnik, Croatia, May 19th-22nd, 2014, pp. 711-720.
- B18 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"An investigation on factors triggering surprise"**, Third International Conference on Design Creativity, Bangalore, India, January 12th-14th, 2015.
- B19 Bacciotti D., Borgianni Y., Rotini F.: **"A CAD Tool to Support Idea Generation in the Product Planning Phase"**, Proceedings of CAD Conference and Exhibition CAD'15, London, United Kingdom, June 22nd-25th, 2015, pp. 177-182.
- B20 Borgianni Y., Rotini F.: **"Stakeholders' diverging perceptions of product requirements: implications in the design practice"**, Proceedings of the 20th International Conference on Engineering Design (ICED15), Milan, Italy, July 27th-30th, 2015.

- B21 Becattini N., Borgianni Y., Cascini G., Rotini F., **"Surprise as a situated phenomenon"**, Proceedings of the 20th International Conference on Engineering Design (ICED15), Milan, Italy, July 27th-30th, 2015.
- B22 Borgianni Y., Matt D.T., **"Axiomatic Design and TRIZ: Deficiencies of their Integrated Use and Future Opportunities"**, Proceedings of the 9th International Conference on Axiomatic Design, Florence, Italy, September 16th-18th, 2015; republished on Procedia CIRP, 34, 2015, pp. 1-6. DOI: 10.1016/j.procir.2015.07.002
- B23 Borgianni Y., Matt D.T., **"Applications of TRIZ and Axiomatic Design: a comparison to deduce best practices in industry"**, Proceedings of the 15th ETRIA TRIZ Future Conference (sponsored by CIRP), Berlin, Germany, October 26th-29th, 2015; republished on Procedia CIRP, 39, 2016, pp. 91-96. DOI: 10.1016/j.procir.2016.01.171
- B24 Becattini N., Borgianni Y., Frillici, F.S., **"Employing customer value criteria to address networks of contradictions in complex technical systems"**, Proceedings of the 15th ETRIA TRIZ Future Conference (sponsored by CIRP), Berlin, Germany, October 26th-29th, 2015; republished on Procedia CIRP, 39, 2016, pp. 73-78. DOI: 10.1016/j.procir.2016.01.168
- B25 Borgianni Y., Rotini F., **"Stimulated ideation sessions in Product Planning: assessing quantitative results of individuals and groups"**, Proceedings of the 14th International Design Conference DESIGN 2016, Dubrovnik, Croatia, May 16th-19th, 2016, pp. 937 - 946.
- B26 Borgianni Y., **"Kano's method in product design: a study of dynamic models' reliability"**, Proceedings of the 14th International Design Conference DESIGN 2016, Dubrovnik, Croatia, May 16th-19th, 2016, pp. 1855 - 1864.
- B27 Borgianni Y., Matt D.T., **"Ideality in Axiomatic Design and beyond"**, Proceedings of the 10th International Conference on Axiomatic Design, Xi'an, People's Republic of China, September 21st-23rd, 2016; republished on Procedia CIRP, 53, 2016, pp. 95-100. DOI: 10.1016/j.procir.2016.07.029
- B28 Chechurin L., Lohtander M., Borgianni Y.: **"What a well-trained TRIZ user can learn from other design methodologies: an initial speculation"**, Proceedings of the 16th ETRIA TRIZ Future Conference, Wroclaw, Poland, October 24th-27th, 2016.
- B29 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"Surprise as the inconsistency of FBS variables in evaluators' interpretation?"**, Fourth International Conference on Design Creativity, Atlanta, United States of America, November 2nd-4th, 2016.
- B30 Maccioni L., Borgianni Y., Rotini F.: **"Sustainability as a Value-Adding Concept in the Early Design Phases? Insights from Stimulated Ideation Sessions"**, SDM: International Conference on Sustainable Design and Manufacturing (SDM17), Bologna, Italy, April 26th-28th, 2017. DOI: 10.1007/978-3-319-57078-5_83
- B31 Annarelli A., Battistella C., Borgianni Y., Nonino F.: **"Predicting the value of Product Service-Systems for potential future implementers: results from multiple industrial case studies"**, 9th CIRP IPSS Conference, Copenhagen, Denmark, June 19th-21st, 2017; republished on Procedia CIRP, 64, 2017, pp. 295-300. DOI: 10.1016/j.procir.2017.03.011
- B32 Borgianni Y., Rotini F., Tomassini M.: **"Fostering ideation in the very early design phases: how textual, pictorial and combined stimuli affect creativity"**, 21st International Conference on Engineering Design (ICED17), Vancouver, Canada, August 21st-25th, 2017.
- B33 Borgianni Y., Hatcher G.: **"Similarities and differences between humorous and surprising products"**, 21st International Conference on Engineering Design (ICED17), Vancouver, Canada, August 21st-25th, 2017.
- B34 Borgianni Y.: **"A framework of forecasting techniques as a checklist to minimize the likelihood of product design failures"**, 17th ETRIA TRIZ Future Conference, Lappeenranta, Finland, October 4th-6th, 2017.
- B35 Borgianni Y., Frillici F.S., Rotini F.: **"How problems are solved in TRIZ literature: the need for alternative techniques to individuate the most suitable Inventive Principles"**, 17th ETRIA TRIZ Future Conference, Lappeenranta, Finland, October 4th-6th, 2017.
- B36 Borgianni Y., Lenarduzzi V., Rotini F., Taibi D.: **"Bringing stimulated ideation in a web environment: students' evaluations of a basic software release"**, Fifth International Conference on Design Creativity, Bath, United Kingdom, January 31st – February 2nd, 2018.

- B37 Maccioni L., Borgianni Y.: **"A product success scale for supporting research in engineering design"**, 15th International Design Conference DESIGN 2018, Dubrovnik, Croatia, May 21st-24th, 2018
- B38 Wallisch A., Maccioni L., Trautmann L., Ostermeyer E., Borgianni Y., Borg J.C.: **"Lessons learnt in designing transportation solutions for elderly people following a participatory approach"**, 15th International Design Conference DESIGN 2018, Dubrovnik, Croatia, May 21st-24th, 2018
- B39 Borgianni Y., Maccioni L., Rauch E.: **"How does product design benefit from eye tracking and biometric systems? An overview on use objectives"** (poster abstract), Eighth International Conference on Design Computing and Cognition (DCC18), Lecco, Italy, July 2nd-4th, 2018
- B40 Borgianni Y., Rauch E., Maccioni L., Mark B.G.: **"User Experience Analysis in Industry 4.0 - the Use of Biometric Devices in Engineering Design and Manufacturing"**, IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), Bangkok, Thailand, December 16th-19th, 2018.
- B41 Borgianni Y., Maccioni L., Rauch E.: **"Using Virtual Reality to match the appearance of technical installations with landscapes"**, 2nd Conference on Human Behavior in Design, Tutzing, Germany, April 23rd-24th, 2019
- B42 Borgianni Y., Maccioni L., Pigosso D.: **"Environmental lifecycle hotspots and the implementation of eco-design principles: does consistency pay off?"**, International Conference on Sustainable Design and Manufacturing (SDM19), Budapest, Hungary, July 4th-5th, 2019
- B43 Maccioni L., Borgianni Y.: **"Eco-design and sustainable development: a speculation about the need for new tools and knowledge"**, International Conference on Sustainable Design and Manufacturing (SDM19), Budapest, Hungary, July 4th-5th, 2019
- B44 Borgianni Y., Maccioni L., Russo Spena P., Shunmugavel M.: **"University education in Additive Manufacturing and the need to boost design aspects"**, 22nd International Conference on Engineering Design (ICED19), Delft, The Netherlands, August 5th-8th, 2019

International Workshops

- W1 Becattini N., Borgianni Y., Cascini G., Rotini F.: **"Computer-Aided Problem Solving: a dialogue-based system to support the analysis of inventive problems"**, Sixth TRIZ Symposium in Japan, Kanagawa I. T., Japan, September 9th-11th, 2010.
- W2 Borgianni Y., **"Assessing the influence of time in transforming customer preferences according to Kano's theory of attractive quality"**, 18th IIF Workshop "Forecasting New Products and Services: Research and Applications", Milan, Italy, May 12th – 13th, 2016
- W3 Annarelli A., Battistella C., Borgianni Y.: **"Service Added Value Estimate: an original tool for forecasting the value of Product Service Systems"**, 18th IIF Workshop "Forecasting New Products and Services: Research and Applications", Milan, Italy, May 12th – 13th, 2016

National Workshops (Italy)

- W4 Maccioni L., Borgianni Y.: **"La sostenibilità come elemento fondamentale di valore nelle fasi preliminari della progettazione"** (*Sustainability as a fundamental value driver in the early design phases*, in Italian), ADM Workshop, Milan, Italy, February 14th-15th, 2017.
- W5 Borgianni Y.: **"Industria 4.0 nell'immaginario degli studenti di ingegneria (e non solo): quanto pesa nel pensiero creativo"** (*Industry 4.0 in the imagination of engineering students (and not only): which role it plays within creative thinking*, in Italian), ADM Workshop, Pisa, Italy, September 14th-15th, 2017.
- W6 Maccioni L., Borgianni Y.: **"Il successo della progettazione sostenibile: una questione di principio?"**, (*Success in sustainable design: a matter of principle?*, in Italian), ADM Workshop, Turin, Italy, February 1st-2nd, 2018
- W7 Borgianni Y., Maccioni L.: **"Le attività del gruppo ING-IND/15 alla Libera Università di"**

Bolzano", (*The activities of the research group belonging to the ING-IND/15 sector at the Free University of Bozen-Bolzano*, in Italian), ADM Workshop, Turin, Italy, February 1st-2nd, 2018

Newspaper articles and media

- N1 Rauch E., Borgianni Y., Matt D.T.: "**Im Auge des Betrachters**" (*In the eyes of the observer*, in German), Südtiroler Wirtschaftszeitung, 12/01/2018