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Curriculum of scientific and academic activity

Updated to October 2024

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1. Brief biography

Fabio Giudice is Associate Professor of Metallurgy at the Department of Civil Engineering and Architecture of the University of Catania.

Former Assistant Professor of Metallurgy at the same institution, he has been Associate Researcher in Industrial Design, Mechanical Engineering and Metallurgy at the Department of Industrial Engineering of the University of Catania, and previously in Mechanical Design and Construction of Machines at the Department of Industrial and Mechanical Engineering of the same University.

He graduated in Mechanical Engineering at the University of Catania, obtained a Master in Design and Bionics at the Research Centre of the European Institute of Design in Milano, and a PhD in Structural Mechanics at the University of Catania.

With research interests in Mechanical Behaviour and Microstructural Characterization of Metallic Materials, Optimal Materials Selection, Metallurgy of Processes based on Mobile Thermal Sources (Laser Welding, Metal Additive Manufacturing by Electron Beam Melting), Metallurgical Phenomena in the Manufacturing and Use of Components for Process Plant, Life Cycle Design and Design for X, Product Design for the Environment, he has published in these areas more than 80 papers (on international and national journals, proceedings of international and national conferences, chapters on international books) and a book for a leading international publishing house.

2. Qualifications

Associate Professor, scientific-disciplinary sector IIND-03/C Metallurgy (since March 2023).

Doctor of Philosophy in Structural Mechanics, March 2001.

Proclaimed expert in the following academic disciplines: Construction of Machines, Mechanical Structures Aided Design (since November 2002); Machine Design, Integrated Product Design (since January 2007).

3. Academic training

On 24th March 1997 he obtained his degree in Mechanical Engineering at the Faculty of Engineering of the University of Catania, with 108/110 marks, discussing a thesis entitled “Models for mechanical design with regards to environmental requirements”, Prof. Eng. Antonino Risitano and Prof. Eng. Guido La Rosa supervisors.

He attended the Master course in Design and Bionics at the Research Center of the European Design Institute in Milan in 1999-2000, completing his Master's degree on 5th May 2000, with the highest marks, discussing a thesis entitled “Design for Disassembly: Design Strategies for the environmental quality of the product lifecycle”, developed in collaboration with CIRIS (Interdepartmental Research Center on Environmental Sustainability Innovation) of the Polytechnic of Milano and Whirlpool Europe in Varese, Prof. Eng. Carlo Vezzoli supervisor.

He attended the doctoral program in Structural Mechanics at the Faculty of Engineering of the University of Catania in 1997-2000. On 9th March 2001 he received the title of Doctor of Philosophy, discussing a thesis entitled "Life Cycle Design for the Environmental Quality of Industrial Products: Integrated Design System", Prof. Eng. Antonino Risitano supervisor.

4. Academic assignments

From 2nd January 2002 to 1st January 2004, and from 2nd February 2004 to 1st February 2006, he was Associate Researcher at the Department of Industrial and Mechanical Engineering of the University of Catania, scientific sector Mechanical Design and Machine Construction, research program "Mechanical design for recycling and re-use of materials used in the mechanical and aeronautical industry", scientific supervisor Prof. Eng. Antonino Risitano.

From 1st September 2006 to 31st August 2010, he was Associate Researcher at the Department of Industrial and Mechanical Engineering of the University of Catania, scientific sector Mechanical Design and Machine Construction, research program "Eco-Design of Mechanical Systems", scientific supervisor Prof. Eng. Guido La Rosa.

From 2nd July 2012 to 1st July 2017, he was Associate Researcher at the Department of Industrial Engineering and at the Department of Civil Engineering and Architecture of the University of Catania, scientific sectors Industrial Design, Mechanical Engineering and Metallurgy, research program "Strategies for optimal Lifecycle of mechanical components and systems",

scientific supervisor Prof. Eng. Antonino Risitano (until October 2014) and Prof. Eng. Guido La Rosa (since November 2014).

From 1st December 2017 to 1st March 2023 he was Assistant Professor of Metallurgy at the Department of Civil Engineering and Architecture of the University of Catania.

Since 2nd March 2023 he is Associate Professor of Metallurgy at the Department of Civil Engineering and Architecture of the University of Catania.

5. Scientific activity

5.1. Research themes

Applied himself to the use of numerical-experimental methods of structural analysis for integrated product design, the introduction of artificial intelligence tools for the enhancement of mechanical design tools, the functional analysis and optimization of mechanical devices for biomedical engineering, the design of mechanical systems for the exploitation of renewable sources, the study of the fatigue behaviour of mechanical materials and components by thermographic method and energy analysis, he developed a particular interest in the themes of Metallurgical and Mechanical Characterization of Metallic Materials and Materials Selection for Engineering Applications, Metallurgy of Processes based on Mobile Thermal Sources (Laser Welding, Metal Additive Manufacturing by Electron Beam Melting), Metallurgical Phenomena in the Manufacturing and Use of Components for Process Plant, Life Cycle Design and Design for X, Product Design for the Environment. In relation to these subjects, he performs research activities on the issues related to the effects of thermal fields due to high power moving sources on material properties, structured methods for optimal materials selection, fatigue design and the assessment of components residual life, creep and fatigue behaviour of additive manufactured metallic alloys, characterization of materials under high-rate strains, life cycle simulation, design for assembly and disassembly, design for recovery and recycling.

5.2. Participation in research projects

In the period 2000-2003 he took part as a researcher in the project "Research and innovation for the competitive development of local systems in the industrial sector - Cluster C 22 Services for Citizens and Territories", Ministry of University and Scientific and Technological Research, at the

Faculty of Engineering of the University of Catania, Department of Industrial and Mechanical Engineering, department superintendent Prof. Eng. Antonino Risitano.

In the period 2001-2004 he took part as a researcher in the project "Preparation, characterization and development of technologies for the industrial use of innovative materials - Cluster C 26 Innovative Materials", Ministry of University and Scientific and Technological Research, at the Faculty of Engineering of the University of Catania, Department of Industrial and Mechanical Engineering, department superintendent Prof. Eng. Guido La Rosa.

In the two-year period 2003-2005 he took part in the planning, formulation, development and co-ordination of a COFIN 2003 research program entitled "Design for Environmental Quality of Products" (inter-university program coordinated by the unit of the Department of Industrial and Mechanical Engineering of the University of Catania, national superintendent of the program Prof. Eng. Guido La Rosa, with Department of Mechanics and Industrial Technologies of the University of Florence, Department of Industrial Engineering of the University of Perugia, Department of Mechanics of the Polytechnic of Milano).

In the two-year period 2004-2005, he took part as a researcher and designer with innovation and product development expertise, in the formulation, planning and development of a pre-competitive research and development program for the redesign and engineering of modular frameworks for structural components in concrete, at the Department of Industrial and Mechanical Engineering of the University of Catania, with Officine Meccaniche La Prometec (Catania).

In the period 2006-2009 he took part as a researcher and designer with environmental issues of materials and production technologies expertise, in carrying out some of the activities of the MIMOSA research project (Micro-car with Ecological Propulsion, Modular and Safe with high Versatility of Use) at the Department of Industrial and Mechanical Engineering of the University of Catania, with CRF Centro Ricerche Fiat (Turin and Catania), GGG Elettromeccanica (Catania), Department of Engineering of the University of Messina.

In the period 2007-2008 he took part as a researcher and designer with innovation and product development expertise, in the formulation, planning and development of a pre-competitive research and development program for the design and prototyping of a "no metal parts" integrated system for ultra-pure fluids pumping, at the Department of Industrial and Mechanical Engineering of the University of Catania, with SAT Siciliana Articoli Tecnici (Catania) and the Scientific and Technological Park of Sicily (Catania).

In 2009, he took part as a researcher and designer with innovation and product development expertise, in the formulation and planning of a pre-competitive research and development program

for the creation of a combined system of wind turbines and antifreeze fans, at the Department of Industrial and Mechanical Engineering of the University of Catania, with AAT Agroindustry Advanced Technologies (Catania).

In the period 2009-2011 he took part as a researcher, in carrying out some of the activities of the VECTOR (Eco-Friendly Vehicle for Optimized and Multi-Role Urban Transport) research project at the Department of Industrial and Mechanical Engineering of the University of Catania, with IVECO (Turin), Fiat Research Center (Turin).

In 2010 he worked on formulating and planning a precompetitive research and development program for the design and prototyping of a wet bench system for the semiconductor industry, for SAT Siciliana Articoli Tecnici (Catania). In the period 2011-2012 he took part in the development of this program as a researcher and designer experienced in innovation and product development issues, and coordinated the technical-scientific activities as a project manager, with SAT Siciliana Articoli Tecnici (Catania), Semi Research (Catania), Xenia Progetti (Catania), Scientific and Technological Park of Sicily (Catania).

In 2012 he took part in the design and design of a precompetitive research and development program for the design and prototyping of a Spray Acid Tool system for the semiconductor industry, with SAT Siciliana Articoli Tecnici (Catania).

In 2015 he participated, as an expert researcher in integrated product design methods, to TEMPUS "Project development and innovation: a new postgraduate curriculum for engineering PDI" 530703-TEMPUS-2012-1-DE-JPCR, taking care of a training course in English, addressed to foreign university professors, entitled "Design for Manufacturing and Environment", at the Department of Industrial Engineering of the University of Catania.

In the period 2018-2020 he was responsible for the CTMAM departmental research project (Thermomechanical Characterization of Metallic Materials obtained through Additive Manufacturing processes), 2016/2018 Research Plan, Department of Civil Engineering and Architecture of the University of Catania.

In 2020 he participated as a researcher to the SIMARE project "Innovative Solutions for High Energy Saving Naval Vessels", PO FESR 2014/2020 - Axis 1, Action 1.1.5 "Support for advancement technological innovation of companies through the financing of pilot lines and early product validation actions and large-scale demonstrations" - Thematic Area "Sea Economy", at the Department of Civil Engineering and Architecture of the University of Catania.

In the period 2021-2022 he participated as a researcher to the THALASSA project "Technology And materials for safe Low consumption And low life cycle cost veSSel And crafts", Public Notice no. 1735 of 13.07.2017 "Notice for the presentation of Industrial Research and Experimental Development projects in the 12 Areas of specialization identified by the 2015-2020 PNR", at the Department of Civil Engineering and Architecture of the University of Catania.

Since 2020 he participates as a researcher to the ARISTOTELIAN 4.0 interdepartment research project (Modelling and Controll of Sustainable Sისტems in Industria 4.0), PIAno di inCEntivi per la Ricerca di Ateneo 2020/2022, Intervention Line 2 - Department Research, University of Catania.

Since 2021 he is responsible for the MESOTERMM research project (Modelling of the Effects due to High Power Mobile Thermal Sources on the Properties of Metallic Materials), PIAno di inCEntivi per la Ricerca di Ateneo 2020/2022, Intervention Line 3 – Starting Grant, University of Catania.

Since 2022 he participates, as a researcher and then as an associate professor, to the SAMOTHRACE project "SiciliAn MicronanOTech Research And Innovation CEnter", Notice no. 3277 of 30-12-2021 “PNRR, Mission 4, Component 2 Investment 1.5”, as part of the activities of Spoke 1 University of Catania - Work Package 1 “Energy”, Task 5.3 “Stress-strain study of the materials of Power Electronics Devices”, at the Department of Civil Engineering and Architecture of the University of Catania.

Since 2024 he participates, as an associate professor, to the RE-COMP project "Innovative flexible manufacturing systems for totally recyclable eco-friendly composite materials", Agreements for innovation, Ministry of Business and Made in Italy (MIMIT) - Project n. F/310165/01-03/X56, at the Department of Civil Engineering and Architecture of the University of Catania.

Since 2024 he is responsible for the INTERMETA research project (Interaction between Thermal Fields and Metallic Alloys in Fusion Processes: Simulation and Parametric Analysis), PIAno di inCEntivi per la Ricerca di Ateneo 2024/2026, Intervention Line 1 – Collaborative Research Projects, University of Catania.

5.3. Other applied research experiences

The scientific activity also included other applied research experiences, carried out in collaboration with companies, design studios, research institutes, listed below.

- 1999-2001 - Industrial research for the development of new products, in collaboration with companies and design studios: Whirlpool Europe (Varese), Hitachi Europe (Milano), Orlandini Design (Milano), Ballarini (Mantova), Nicos International (Treviso), Taplast (Vicenza)
- 2001-2003 - Analysis of environmental criticalities and redesign of automotive components, with CRF Centro Ricerche Fiat (Torino)
- 2003-2004 - Development of high recycled fraction compound for compression molding of thermosetting matrix composite components, with N.T.ET. New Electrical and Telecommunication Technologies (Catania)
- 2008 - Preliminary study for the development of a system for the purification of petrochemical tanks (tank cleaning), with Nico SpA (Siracusa).
- 2012 - Development of an automated handling system for wafer carriers used in semiconductor industry processes, with SAT Siciliana Articoli Tecnici (Catania).
- 2018-2022 - Mechanical characterization (static and fatigue) of Ti-6Al-4V titanium alloy specimens obtained by EBM additive manufacturing process, with Mt Ortho (Catania).

5.4. Activities in scientific publishing

Reviewer for the following international journals: *Applied Sciences* (MDPI), *Computers & Industrial Engineering* (Elsevier), *Journal of Cleaner Production* (Elsevier), *Journal of Engineering Design* (Taylor & Francis), *Journal of Industrial Ecology* (Wiley), *Materials* (MDPI), *Materials Letters* (Elsevier), *Metals* (MDPI), *Proceedings of the Institution of Mechanical Engineers Part L - Journal of Material: Design and Applications* (SAGE), *Steel Research International* (Wiley), *Sustainability* (MDPI).

Member of Topical Advisory Panel for the following international journals: *Metals* (section Additive Manufacturing), *Materials* (section Metals and Alloys).

6. Teaching activity

6.1. University education

As associate professor, he is regular lecturer of the following courses for the degree in Chemical Engineering for Industrial Sustainability at the University of Catania:

- Metallurgy (since academic year 2018-19, full course)

- Equipment Design for Chemical Industry (since academic year 2021-22, module B)

As tutor for exercises, he has supported the following courses for the degree in Mechanical Engineering and Management Engineering at the University of Catania:

- Construction of Machines, teacher Prof. Eng. Antonino Risitano (academic years 1998-99, 2000-01, 2001-02, 2002-03, 2003-04)
- Mechanical Structures Aided Design, teacher Prof. Eng. Guido La Rosa (academic years 2000-01, 2001-02, 2002-03, 2003-04)
- Integrated Product Design, teacher Prof. Eng. Guido La Rosa (academic years 2005-06, 2006-07, 2007-08, 2008-09)
- Integrated Product Design, teacher Prof. Eng. Giovanna Fargione (academic years 2009-10, 2010-11, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-20)

As contributor to the teaching, he has supported the following courses for the degree in Mechanical Engineering and Management Engineering at the University of Catania, by means of seminar lessons:

- Integrated Product Design, teacher Prof. Eng. Guido La Rosa (academic year 2005-06)
- Machine Design, teacher Prof. Eng. Antonino Risitano (academic years 2005-06, 2006-07, 2008-09, 2010-11)

As proclaimed expert in academic disciplines, he conducted teaching activities in the following courses for the degree in Mechanical Engineering and Management Engineering at the University of Catania, dealing with some specific topics in the programs:

- Integrated Product Design, teacher Prof. Eng. Guido La Rosa (academic years 2006-07, 2007-08, 2008-09)
- Integrated Product Design, teacher Prof. Eng. Giovanna Fargione (academic years 2009-10, 2010-11, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-20)
- Construction of Machines, teacher Prof. Eng. Antonino Risitano (academic year 2012-13)
- Construction of Machines, teacher Prof. Eng. Guido La Rosa (academic years 2015-16, 2016-17, 2017-18, 2018-19)

He has been commissioned for an external collaboration to carry out preparatory and retrieval activities aimed at providing support to learning the following course for the degree in Management Engineering at the University of Catania:

- Integrated Product Design, teacher Prof. Eng. Giovanna Fargione (academic year 2016-17)

6.2. Support for graduation theses

In the period 2001-2024, at the University of Catania, he attended as a supervisor and co-supervisor more than 80 graduate theses of students in Industrial Engineering, Mechanical Engineering, Management Engineering, Chemical Engineering for Industrial Sustainability.

6.3. Referee for PhD theses

In the year 2020, he was appointed as referee for the thesis “Creep Characterization of Metallic Materials” by candidate P. Aliprandi, PhD program Engineering and Chemistry of Materials and Construction, XXXIII Cycle, University of Messina, Italy.

In the year 2022, he was appointed as referee for the thesis “Advanced Materials for Biomechanical Applications” by candidate A. Grasso, PhD program Engineering and Chemistry of Materials and Construction, XXXV Cycle, University of Messina, Italy.

In the year 2023, he was appointed as referee for the thesis “DeSA: Holistic Eco-Design Framework for Design and Sustainability Analysis in the Automotive Context” by candidate A. Antonacci, PhD program Industrial Engineering, XXXVI Cycle, University of Firenze, Italy.

6.4. Other teaching experiences related to academic activity

In the year 2015 he lectured "Design for Manufacturing and Environment" course for foreign university teachers, under the TEMPUS project "Project development and innovation: A new postgraduate curriculum for engineering PDI", at the Department of Industrial Engineering of the University of Catania.

In the year 2018 he lectured on the subject "Integrated Product Design" at the Faculty of Mechanical Engineering of the Cracow University of Technology.

In the academic years 2021-22 and 2023-24 he lectured on the subject "Integrated Product Design and Environmental Efficiency" in the university master's degree “Environmental Restoration of Polluted Areas for Ecological Transition”, University of Catania.

In the year 2024 he lectured on the subject "Codes and Standards for Fatigue-Based Design of Hydrogen Transport Infrastructure Components” in the master's degree “ESA HYDROGEN – Energy and Environmental Sustainability: Hydrogen. The New Challenges of the Energy

Transition”, UNISOM - Consortium for the University of Western Sicily and the Mediterranean Basin.

7. Publications

7.1. International monographs

1. Giudice F., La Rosa G., Risitano A., *Product Design for the Environment: A Life Cycle Approach*, CRC Press/Taylor & Francis, Boca Raton, FL, 2006, ISBN 0849327229

7.2. Chapters of international books

1. Giudice F., “A Graph-Based Approach for Modeling, Simulation, and Optimization of Life Cycle Resource Flows”, in *Reverse Supply Chains: Issues and Analysis* (ed. S.M. Gupta), CRC Press/Taylor & Francis, Boca Raton, FL, 2013, ISBN 1439899021, pp. 313-342 (invited contribution)
2. Giudice F., “Eco-Packaging Development: Integrated Design Approaches”, in *Handbook of Sustainable Engineering* (eds. J. Kauffman, K.-M. Lee), Springer, Dordrecht, The Netherlands, 2013, ISBN 1402089381, pp. 323-350
3. Giudice F., “Product Design for the Environment: The Life Cycle Perspective and a Methodological Framework for the Design Process”, in *Environment Conscious Manufacturing* (eds. S.M. Gupta, A.J.D. Lambert), CRC Press, Boca Raton, FL, 2008, ISBN 0849335523, pp. 33-89 (invited contribution)
4. Giudice F., La Rosa G., Risitano A., “Product Recovery-Cycles Design: Extension of Useful Life”, in *Feature Based Product Life-Cycle Modelling* (eds. R. Soenen, G. J. Olling), Kluwer Academic Publishers, Dordrecht, The Netherlands, 2003, ISBN 1402073275, pp. 165-185

7.3. Papers in international journals

1. Giudice F., Missori S., Scolaro C., Sili A. “A Review on Metallurgical Issues in the Production and Welding Processes of Clad Steels”, *Materials*, vol. 17, 2024, 4420

2. Giudice F., Missori S., Sili A. “Dissimilar Welding of Thick Ferritic/Austenitic Steels Plates Using Two Simultaneous Laser Beams in a Single Pass”, *Journal of Manufacturing and Materials Processing*, vol. 8, 2024, 134
3. Giudice F., Missori S., Scolaro C., Sili A. “A Review on Fusion Welding of Dissimilar Ferritic/Austenitic Steels: Processing and Weld Zone Metallurgy”, *Journal of Manufacturing and Materials Processing*, vol. 8, 2024, 96
4. Visco A., Brahim S., Giudice F., Scolaro C., Sili A. “Vitamin E Effects on the Wear Resistance of UHMWPE Sheets against an EBM-Produced Ti6Al4V Pin”, *Materials Letters*, vol. 356, 2024, 135602
5. Giudice F., Sili A. “Validation of a Theoretical Model for Laser Welding Thermal Field by Multi-Physics Numerical Simulation”, *Metals*, vol. 13, 2023, 2020
6. Visco A., Epasto G., Giudice F., Scolaro C., Sili A. “Wear Effect on the Contact between a Metallic Pin and a Rotating Polymeric Specimen”, *Applied Sciences*, vol. 13, 2023, 4463
7. Giudice F., Sili A., “A Theoretical Approach to the Residual Stress Assessment based on Thermal Field Evaluation in Laser Beam Welding”, *The International Journal of Advanced Manufacturing Technology*, vol. 123, 2022, pp. 2793-2808
8. Caponetto R., Fargione G., Giudice F., Schiavo M. “Revamping Optimization of a Pressure Piping System Using Artificial Neural Networks”, *Designs*, vol. 6, 2022, 103
9. Visco A., Giudice F., Guglielmino E., Scolaro C., Sili A. “Experimental Investigation of the Tribological Contact between Ti6Al4V-EBM Pin and UHMWPE Rotating Sheet for Prosthetic Applications”, *Metals*, vol. 12, 2022, 1526
10. Giudice F., Grasso A., Guglielmino E., Sili A. “An Experimentally-Based Procedure for Residual Life Assessment of Steel Radiant Tubes”, *International Journal of Pressure Vessels and Piping*, vol. 196, 2022, 104628
11. Arena E., Fargione G., Giudice F., Latona E. “RBI-IOWs Integrated Approach to Risk Assessment: Methodological Framework and Application”, *Journal of Loss Prevention in the Process Industries*, vol. 79, 2022, 104838
12. Giudice F., Sili A. “Investigation on Laser Beam Weldability of AISI 304L Plates Based on Thermal Field Simulation by Experimentally-Fitted Analytical Modeling”, *Lasers in Manufacturing and Materials Processing*, vol. 8, 2021, pp. 466-490
13. Costanza G., Giudice F., Sili A., Tata M.E. “Correlation Modeling between Morphology and Compression Behavior of Closed-Cell Al Foams Based on X-Ray Computed Tomography Observations”, *Metals*, vol. 11, 2021, 1370

14. Giudice F., Missori S., Sili A., “Modellazione Analitica per la Simulazione dei Campi Termici nella Saldatura al Fascio Laser / Analytical Modelling for Thermal Field Simulation in Laser Beam Welding”, *La Metallurgia Italiana: International Journal of the Italian Association for Metallurgy*, vol. 113, 2021, pp. 13-21
15. Giudice F., Sili A., “Weld Metal Microstructure Prediction in Laser Beam Welding of Austenitic Stainless Steel”, *Applied Sciences*, vol. 11, 2021, 1463
16. Giudice F., Missori S., Sili A., “Parameterized Multipoint-Line Analytical Modeling of a Mobile Heat Source for Thermal Field Prediction in Laser Beam Welding”, *The International Journal of Advanced Manufacturing Technology*, vol. 112, 2021, pp. 1339-1358
17. Giudice F., Barbagallo R., Fargione G., “A Design for Additive Manufacturing Approach based on Process Energy Efficiency: Electron Beam Melted Components”, *Journal of Cleaner Production*, vol. 290, 2021, 125185
18. La Rosa G., Lo Savio F., Giudice F., Clienti C., Marino Cugno Garrano A., “Energetic Analysis of Fatigue Hysteresis by Thermographic and Digital Image Correlation Methodologies”, *Fatigue and Fracture of Engineering Materials and Structures*, vol. 43, 2020, pp. 2597-2607
19. Mirone G., Barbagallo R., Giudice F., Di Bella S., “Analysis and Modelling of Tensile and Torsional Behaviour at Different Strain Rates of Ti6Al4V Alloy Additive Manufactured by Electron Beam Melting (EBM)”, *Materials Science and Engineering A*, vol. 793, 2020, 139916
20. Giudice F., Missori S., Murdolo F., Sili A., “Metallurgical Characterization of the Interfaces in Steel Plates Clad with Austenitic Steel or High Ni Alloys by Hot Rolling”, *Metals*, vol. 10, 2020, 286
21. Giudice F., Fargione G., Caponetto R., La Rosa G., “Modeling and Optimization of Multi-Component Materials Selection and Sizing Problem”, *Proceedings of the Institution of Mechanical Engineers, Part L - Journal of Materials: Design and Applications*, vol. 234, 2020, pp. 255-273
22. Aliprandi P., Giudice F., Guglielmino E., Sili A., “Tensile and Creep Properties Improvement of Ti-6Al-4V Alloy Specimens Produced by Electron Beam Powder Bed Fusion Additive Manufacturing”, *Metals*, vol. 9, 2019, 1207

23. Aliprandi P., Giudice F., Guglielmino E., La Rosa G., Sili A., “Creep Behavior of Ti-6Al-4V Alloy Specimens Produced by Electron Beam Melting”, *La Metallurgia Italiana: International Journal of the Italian Association for Metallurgy*, vol. 6, 2019, pp. 18-23
24. Mirone G., Barbagallo R., Giudice F., “Locking of the Strain Rate Effect in Hopkinson Bar Testing of a Mild Steel”, *International Journal of Impact Engineering*, vol. 130, 2019, pp. 97-112
25. Fargione G., Giudice F., Risitano A., “The Influence of the Load Frequency on the High Cycle Fatigue Behaviour”, *Theoretical and Applied Fracture Mechanics*, vol. 88, 2017, pp. 97-106
26. Giudice F., “Disassembly Depth Distribution for Ease of Service: A Rule-Based Approach”, *Journal of Engineering Design*, vol. 21(4), 2010, pp. 375-411
27. Giudice F., Ballistreri F., Risitano G., “A Concurrent Design Method Based on DFMA-FEA Integrated Approach”, *Concurrent Engineering: Research and Applications*, vol. 17(3), 2009, pp. 183-202
28. Giudice F., Kassem M., “End-of-Life Impact Reduction through Analysis and Redistribution of Disassembly Depth: A Case Study in Electronic Device Redesign”, *Computers & Industrial Engineering*, vol. 57(3), 2009, pp. 677-690
29. Giudice F., La Rosa G., “Design, Prototyping and Experimental Testing of a Chiral Blade System for Hydroelectric Microgeneration”, *Mechanism and Machine Theory*, vol. 44(8), 2009, pp. 1463-1484
30. Giudice F., Fargione G., “Disassembly Planning of Mechanical Systems for Service and Recovery: A Genetic Algorithms Based Approach”, *Journal of Intelligent Manufacturing*, vol. 18(3), 2007, pp. 313-329
31. Giudice F., La Rosa G., Russo T., Varsalona R., “Evaluation and Improvement of the Efficiency of the Seidel Humeral Nail by Numerical–Experimental Analysis of the Bone-Implant Contact”, *Medical Engineering & Physics*, vol. 28(7), 2006, pp. 682-693
32. Giudice F., La Rosa G., Risitano A., “Materials Selection in the Life-Cycle Design Process: A Method to Integrate Mechanical and Environmental Performances in Optimal Choice”, *Materials and Design*, vol. 26(1), 2005, pp. 9-20

7.4. Papers in national journals

1. Giudice F., La Rosa G., Risitano A., “Sviluppo di Imballaggi Eco-Sostenibili”, *Progettare*, n. 329, Gennaio 2009, pp. 59-63
2. Giudice F., La Rosa G., Risitano A., “Progettazione di Imballaggi Eco-Sostenibili”, *Progettare*, n. 325, Settembre 2008, pp. 51-54
3. Giudice F., La Rosa G., Risitano A., “Design for Recycling”, *Plastix*, n. 4, Maggio 2008, pp. 34-39 (invited paper)
4. Giudice F., Kassem M., “Sistemi per il Disassemblaggio di Apparecchiature Elettriche e Elettroniche”, *Progettare*, n. 318, Gennaio 2008, pp. 45-48
5. Giudice F., La Rosa G., Risitano A., “Integrazione degli Aspetti Ambientali nella Progettazione di Prodotto: Parte 1 - Dalla Parte dell’Ambiente”, *Progettare*, n. 303, Settembre 2006, pp. 123-125
6. Giudice F., La Rosa G., Risitano A., “Integrazione degli Aspetti Ambientali nella Progettazione di Prodotto: Parte 2 - Aspetti Ambientali nella Progettazione”, *Progettare*, n. 304, Ottobre 2006, pp. 57-60
7. Giudice F., La Rosa G., Risitano A., “La Scelta dei Materiali per la Progettazione del Ciclo di Vita”, *Il Progettista Industriale*, Settembre 2005, pp. 26-27
8. Giudice F., La Rosa G., Risitano A., “Prodotti Eco-Compatibili”, *Progettare*, n. 257, Giugno 2002, pp. 69-73 (invited paper)
9. Giudice F., La Rosa G., Risitano A., “Progettazione Orientata alla Qualità Ambientale: Problematiche Generali”, *Lamiera*, Giugno 2001, pp. 192-197 (invited paper, also published in: *Trattamenti e Finiture*, Ottobre 2001; *Fonderia*, Ottobre 2001)
10. Giudice F., La Rosa G., Risitano A., “Progettazione Orientata alla Qualità Ambientale: Esperienza Applicativa su un Componente Impiantistico”, *Lamiera*, Settembre 2001, pp. 300-307 (invited paper, also published in: *Trattamenti e Finiture*, Febbraio 2002; *Fonderia*, Febbraio 2002)

7.5. Papers in proceedings of international conferences

1. Fargione G., Giudice F., Barbagallo R., Corallo D., La Rosa G., “Combined Experimental Methods to Assess the Fatigue Limit”, *IOP Conference Series: Materials Science and Engineering*, vol. 1214, 2022, 012014

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3. Fargione G., Giudice F., “An Approach to Design for Environmental Sustainability of Additive Manufactured Metal Components”, *Procedia Structural Integrity*, vol. 24, 2019, pp. 758-763
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