

Short biosketch

Bianca Maria Colosimo is Full Professor at Politecnico di Milano (Italy), where she is **Deputy-Head** of the Department of Mechanical Engineering and member of the **Rector's board POLIMI2040**, a team appointed to design the strategic agenda of the university in the next decade. Politecnico di Milano is a technical university ranked among global top 20 in the area of Mechanical, Aeronautical & Manufacturing Eng. (QS international Ranking - 2020).



She is currently **Department Editor of IISE Transactions**, **Senior Editor of Informs Journal of Data Science** and **Editor of Progress in Additive Manufacturing**. She has been **Editor-in-Chief of the Journal of Quality Technology** (2018-2021).

She is Member of the Implementation Support Group of the **Manufuture-EU**, Member of the Steering Committee of the EU **Vanguard** initiative on 3D printing, Member of the Board of Directors **EIT manufacturing - CLC south**, CDA Member of **MADE**, one of the Italian **Digital Innovation Hub** on Industry 4.0; and Member of the Steering Committee of the **World Manufacturing Forum** (WMF).

She is co-leading the **AddMe Lab**, the research laboratory on Additive Manufacturing, equipped with all the relevant technologies for metal additive manufacturing (e.g., powder-bed, directed-energy deposition, binder jetting, extrusion-based processes, X-Ray CT). Currently, she is principal investigator of three **research projects** funded by the European Community on advanced statistical models for Additive Manufacturing (funded value: +1 million Euro).

Her main research interest is in the area of **data science**, focusing on (big) **data modelling, monitoring and control** for **advanced manufacturing** applications, **additive manufacturing** or **3D printing** among all.

Fostered by *Industry 4.0*, complex and massive data sets are currently available in many industrial settings. On the one hand, in-situ and in-line data are available as multi-stream **signals, image and video-images**. On the other hand, the product quality is more and more often characterized by **free-form shapes**, measured voxel-wise or surface-wise providing massive data sets for product qualification. In this framework, novel solutions are needed, combining machine learning with statistical data modeling to create a new set of robust solutions supporting decision making.

She is included among the **top 100 Italian woman scientists in STEM** – (<https://100esperte.it/>)

Education

- January 2001 - August 2001 - **Visiting Scholar** in the Department of Industrial and Manufacturing Engineering of the Pennsylvania State University (PSU) - USA.
- January 2001 - **Ph.D. in Manufacturing and Production Systems**
Ph.D. thesis title: *“Bayesian approaches for Statistical Quality Control”*, Politecnico di Milano.
- July 1996 - **M.S. in Management and Industrial Engineering (cum Laude)** - mark: 100/100 e Lode Thesis title: *“Proposal of an approach for tooling system configuration in Flexible Manufacturing Systems”*, Politecnico di Milano - Awarded as the best M.S. thesis in Manufacturing and Production systems by UCIMU (Italian Industrial Association of Manufacturing Systems and Machine tools).

Academic Position

- Since 2014 **Full Professor** in Manufacturing and Production Systems, Politecnico di Milano.
- 2003-2014, **Associate Professor** in Manufacturing and Production Systems, Politecnico di Milano (with tenure since 2006).
- 1999-2003, **Assistant Professor** in Manufacturing and Production Systems, Politecnico di Milano.

Scientific and editorial assignment

- Since 2021: Senior Editor of the **INFORMS Journal of Data Science** and **Department Editor of IISE Transactions**
- Since 2021: Member of the **Publications Management Council** with the American Society for Quality
- Since 2021: member of the **Technometrics Management Committee**
- 2018-2021: **Editor-in-Chief - Journal of Quality Technology - Taylor&Francis**
- Since 2006, Member of the **Editorial Board of Journal of Quality Technology**
- Since 2020: Member of the **Editorial Board of Additive manufacturing Letters**
- Since 2021: **Senior Editor of the Journal of Data Science (Informs)**
- Since 2012 member of the Editorial Board of the **PolIMI SpringerBriefs** (<http://www.springer.com/series/11159>)
- 2017-2020 member of the QSR Advisory Board at **INFORMS** (<http://connect.informs.org/qsr/officers/leadership>)
- 2017-2021 - **Council member of ENBIS** (European Network of Business and Industrial Statistics) - four elected people - <http://www.enbis.org/about/organisation/index>
- 2020: Co-Editor of the **Special Issue on Machine Learning in Dimensional Metrology of Precision Engineering** (with Richard Leach and Samanta Piano - University of Nottingham; Benjamin Haefner - Karlsruhe Institute of Technology; Robert Schmitt - RWTH Aachen and Fraunhofer IPT)
- 2016: Co-Editor of the **Special Issue on Additive Manufacturing of IISE Transactions** (with Q. Huang - University of Southern California; Z. Kong - Virginia Tech; X. Qian - University of Wisconsin-Madison)
- 2016: Co-Editor of the **Special Issue on Quality Engineering in Advanced Manufacturing of the Journal of Quality Technology** (with T. Dasgupta - Rutgers University; and Q. Huang - University of South California).
- 2016: Co-Editor of the **Special issue on 2016 ENBIS conference** (European Network of Business and Industrial Statistics) of *Quality and Reliability Engineering International* (with B. Bergquist).
- 2016-2018, **Associate Editor of IISE Transactions - Quality and Reliability**

Ad-hoc referee for many scientific journals in industrial statistics, industrial engineering and manufacturing

Other commitment in national and international boards:

- Since 2020 - Member of the Board of Directors **EIT manufacturing - CLC south**
- Since 2020- CDA Member of **MADE**, the competence center funded by the Italian Ministry of Industry, constituted by 40 companies and 4 universities to foster innovation and research in Industry 4.0.
- 2018- Member of the Implementation Support Group of the **Manufuture-EU** (<http://www.manufuture.org>)- the platform of the European Commission aimed at designing the strategic agenda of Europe in Manufacturing

- 2016: Member of the Steering Committee of the **EU Vanguard initiative on 3D printing**- (<http://www.s3vanguardinitiative.eu/cooperations/high-performance-production-through-3d-printing>)
- Since 2020 - Member of the Steering Committee of the **World Manufacturing Forum (WMF)** - <https://www.worldmanufacturingforum.org/>
- 2016 - 2018 Member of the Italian Board on **Smart Manufacturing** (Fabbrica Intelligente) - the national cluster on Industry 4.0 manufacturing

Service to the University:

- Since 2017, member of the Politecnico di Milano **Rector's Board POLIMI 2040**, a team of 7 Faculty Professors selected by the Rector to design long-term strategies for the university.
- Since 2017, **Deputy Head of the Department of Mechanical Engineering**.
- 2012-2017, **Head of the Ph.D. Programme in Mechanical Engineering** of Politecnico di Milano. The main role is coordinating the PhD Faculty and managing research activities of about 90 PhD candidates attending the PhD in Mechanical Engineering.
- 2013-2016, Member of the **Board of the Department of Mechanical Engineering** of Politecnico di Milano. The Board is a team of 8 Faculty members and two administrative people in charge of managing the Department.
- 2004-2011, **Head of the Ph.D. Programme in Manufacturing and Production Systems**, Politecnico di Milano (about 15 students overall).

Awards, Scientific Mentions, Invited research seminars

- From 2017- Selected among the **100 experts** in STEM - <https://100esperte.it>
- March 2022 - Invited Keynote speaker at Peking University - Data mining in Additive manufacturing: opportunities and challenges of digital manufacturing for zero-waste production.
- March 2022 - Keynote speaker at the first International conference ESA-NASA 1st International Conference on Advanced Manufacturing for Air, Space and Land Transportation - 7-10 March 2022
- Oct 2021- Invited Teacher in the Advanced Course *Metal Additive Manufacturing: Fundamentals, Modeling, Materials, And Implementation* coordinated by A. J. Hart (Massachusetts Institute of Technology) and C. Meier (Technical university Munich) <https://www.cism.it/en/activities/courses/C2119/>
- Oct 2021 - **invited keynote speaker - Florida University** - ISE department (at UF) seminar series- Big data mining for Industry 4.0: opportunities and challenges in additive manufacturing - Oct 15, 2021
- June 2021 - **keynote speaker ENBIS workshop** - "Interpretability for Industry 4.0", 12-13 July, Naples
- April 2021 - invited **keynote speaker EUSPEN 21st** International Conference & Exhibition - Complex Data as The "New Normal" in Precision Engineering: Opportunities and Challenges - <https://www.euspen.eu/events/21st-ice-virtual/?subid=21st-ice-virtual-> 7th - 10th June 2021
- Feb 2021 - invited **keynote speaker - Rutgers University** - Department of Industrial and Systems Engineering Big Data Mining, Modeling and Monitoring for Industry 4.0: Opportunities and Challenges in Additive Manufacturing - Feb 9, 2021
- Nov 2020 - invited **keynote speaker** - Annual Meeting of the Institute of Quality and Reliability, **Tsinghua University**.
- Feb 2019, invited seminar at the **Max-Planck-Institut** - Dusseldorf - "*In-situ sensing and monitoring of metal additive manufacturing processes*", Feb 11, 2019.

- 2018: Panel leader of the EU-US workshop “*Integrated Mechanistic Data-Driven Modeling for Additive Manufacturing*”, organized by the **The National Academies of Sciences, Engineering, and Medicine** (www.nas.edu), Nürnberg, Germany, October 24-26, 2018.
- July 2018 and July 2017 invited speaker at the **Massachusetts Institute of Technology (MIT)** - **professional course** “From 3D Printing to the Factory Floor” - title of the lecture “In-situ monitoring of metal AM”
- 2017 **plenary talk** at the **Stu Hunter Research Conference** “Modeling and Monitoring Methods for Complex Data” (90-minute presentation followed by 90-minute discussions), , March 5-8, 2017, Copenhagen, Denmark.
- 2016 *invited research seminar* at **Georgia Tech** (Atlanta - USA). Zero-defect advanced manufacturing via statistical data modeling and monitoring. 17/11/2016
- 2016 *invited research seminar* at **Massachusetts Institute of Technology** (Boston - USA) Department of Mechanical Engineering - Zero-defect advanced manufacturing via statistical data modeling and monitoring 4/08/2016.
- 2015 *invited research seminar* - **University of South California** (Los Angeles - USA) USC Viterbi School of Engineering - Daniel J. Epstein Department of Industrial and Systems Engineering - Title: Statistical Quality Monitoring of Advanced Manufacturing Processes: Open Challenges and Possible Solutions. 3/11/2015.
- 2013 Invited presentation to the session entitled: “**A Decade of Profile Monitoring: What’s Next?**” of the Joint Statistical Meeting 2013, Montreal (Canada) August 3-8 2013.
- From 2011 to 2018 several invited presentations at **INFORMS** (twice in the Session of Journal of Quality Technology)
- 2013 Invited **discussant** at the **First Stu Hunter Conference** 12-15 March 2013 - NH Marquette Netherlands (discussant of the paper *Latent structures based-multivariate Statistical process control: A paradigm shift* presented by A. Ferrer).
- 2008: invited research seminar - **Universidad Carlos III** (Madrid) to PhD students in Statistics - Title: Statistical Monitoring of Manufactured Profiles and Surfaces.
- 2008, **Top downloaded paper of the year** - B.M. Colosimo, M. Pacella and Q. Semeraro, 2008, *Statistical Process Control for Geometric Specifications: on the Monitoring of Roundness Profiles*, Journal of Quality Technology, vol. 40, No. 1, January 2008, pp. 1-18.
- Invited 2007 - IXth International Workshop on Intelligent Statistical Quality Control - three-year meeting of invited attendants. **Beijing**, September 12-14, 2007
- 2003, **Best Young Researcher Award** in Manufacturing and Production Systems, ATTeM (Italian Association of Manufacturing) for the paper “*Service Quality Control using Bayesian Networks*”.
- 1996, **Award** of the UCIMU (Italian Association of Manufacturing Systems and Machine Tools producers) for the **best M.S. thesis** in Manufacturing and Production systems.

Courses frequently taught

- *Quality Data Analysis / Quality Engineering* (graduate level): time series analysis, multivariate statistics, process monitoring for complex data sets
- *Additive Manufacturing* (graduate level): processes opportunities and challenges of Additive Manufacturing
- *Manufacturing and Quality* (undergraduate level): basic principles of manufacturing processes (machining, casting, forming), inspection and tolerances

PhD Students (from most recent)

- Alessandro Margarita (2021- present) - Bioprinting for space applications
- Filippo Bracco /2021-present) - Food Bioprinting: opportunities and challenges

- Patrizia Gironi (2020-present) - Digital twin for bioprinting
- Marco Palladino (2019-present) - industrial PhD from Baker Hughes
- Silvia Santoni (2019-present) - New biomaterials for bioprinting
- Simone Gugliandolo -(2019-present) - New solutions for insitu monitoring in bioprinting
- F. Garghetti in progress (2019-present) - machine learning for manufacturing 4.0
- M. Bugatti (cofounded by the European Space Agency) in progress (2018- present)
- F. Caltanissetta (Rocca Fellows at MIT) in progress (2018-present)
- Marco Grasso (2015): Profile Monitoring of multi-stream sensor data - currently Assistant Professor - Politecnico di Milano
- Luca Pagani (2015): *Data Fusion for Process Optimization and Surface Reconstruction* - currently Research Fellow - University of Huddersfield
- Paolo Cicorella (2014): *Surface Reconostruction and monitoring via Gaussian processes* - currently Financial and Credit Risk Specialist at Generali
- Marcela Meneses (2012): *Statistical monitoring of vertical density profiles* - currently Professor at the Instituto Tecnologico de Costa Rica
- Laura Catellani (2007): *Quality in tertiary education* - currently Manager in the School of Management - Politecnico di Milano

She has been acting as supervisor of more than 100 MSc students in Industrial Engineering.

Memberships in scientific organizations

She is senior member of the American Society for Quality (ASQ), member of the European Network for Business and Industrial Statistics (ENBIS: www.enbis.org), member of INFORMS, member of EUSPEN and member of the Italian Association of Manufacturing (AITEM, www.aitem.org).

RESEARCH PROJECTS:

Current Projects (funded as a result of competitive evaluation):

- 2022 ESA project – Titanium for AM - Development of new metallic alloys for additive manufacturing - ESA/ESTEC ref n° AO/1-10435/20/NL/AR - CRM (B), SABCA (B), ANY-SHAPE (B), UCL (B), POLIMI (IT), CSM (IT)
- 2021 IAREPAM (subcontracted by LIMA corporate) – in situ-monitoring in additive manufacturing of implants
- 2021 - EIT Manufacturing - AMAI - “Additive Manufacturing and Artificial Intelligence” With Chalmers University of Technology; Avio Aero; Beamit Spa; CNR-STIIMA.12 months - total funding for DMEC € 149.837,00 – ROLE: PI
- 2021- EIT Manufacturing - AM HLP “Additive Manufacturing for Hospitals - Learning Program” Project coordinator: Fraunhofer - 12 months. Total budget: € 73.508 KE
- 2020 – 2022 – Project IAMSPACE: Italy for Additive Manufacturing in Space – ESA - AO10042 (BUILDING BLOCKS): AM PROCESS MONITORING AND STRUCTURAL INTEGRITY. Funded budget 500 KE. – Polimi budget
- 2018- 2033 - Accordo ASI-POLIMI n. 2018-5-HH.0, Leader of the WP4 activities on Additive manufacturing for Space applications
- 2020-2022 FISVAL - Filiera Integrata e Sostenibile per la produzione di VALvole smart
- 2020-2022 National project - *CONTACT*- CustOm-made aNTibacterial/bioActive/bioCoated prostheses - MIUR PON MIUR “Ricerca e Innovazione” 2014 – 2020 Funded budget (for the research group 330 KE)
- 2020- Project ASSARTA - Bando Agenzia Spaziale Italiana (ASI) - Tecnologie Abilitanti Trasversali – funded budget 491 KE
- 2019-2021 National project - *SIADD*- Soluzioni Innovative per la qualità e la sostenibilità dei processi di ADDitive manufacturing (Novel solutions for quality and sustainability of AM processes)- MIUR PON MIUR “Ricerca e Innovazione” 2014 – 2020 Total budget Polimi: 1.017.000 Euro- duration: 30 months. Role: Principal investigator
- 2019-2010 MIT Seeds funds – *UAM Unmanned Additive Manufacturing* – joint research project POLIMI-Massachusetts Institute of Technology (MIT) - principal investigators: BM. Colosimo (POLIMI), John Hart and Cem Tasam (MIT).
- 2016-2021 *A.M.A.T.HO. - Additive Manufacturing Tiltrotor HO.using* - <https://www.amatho.org> H2020- CleanSky 2 - http://cordis.europa.eu/project/rcn/206580_en.html - Total budget POLIMI 1.250.000 Euro – Role: Leader of WP3 - Detailed Design and Process Development.
- 2019 – 2020 KIC Raw Materials *LILLIAM-Lifelong Learning In Additive Manufacturing*, (24 months). Total budget: 115.639 Euro. Role: Principal investigator
- 2018-2020 Erasmus+ (EAC/A05/2017) *SAM- Sector Skills Strategy in Additive Manufacturing* (48 months) – Total budget for POLIMI – 278.000 Euro Principal investigators: M. Taisch and BM Colosimo
- 2017-2019 -Regional project - *Made4Lo* – Additive Manufacturing for Lombardy. <http://www.openinnovation.regione.lombardia.it/it/accordi-per-la-ricerca/progetto-made4lo>. Total budget POLIMI – 976.000 Euro Role: Leader of WP on *Qualification in Additive Manufacturing: materials, processes and products in Additive Manufacturing*.

Previous projects

- 2016-18 MIT Seeds funds – *SAMM – Smart Additive Manufacturing for Metals* joint research project POLIMI-Massachusetts Institute of Technology (MIT) - principal investigators: BM. Colosimo (POLIMI) and John Hart (MIT).

- 2014-2017 National project Cluster Tecnologici Nazionali - Fabbrica Intelligente - *Progetto High Performance Machining*. Role: Leader of WP3 - Data fusion for Flexible manufacturing systems supervision. Total budget managed by B.M. Colosimo 300.000 Euro (approximately).
- 2014-2015 *SMARTA - A network of monitoring sensors to support health, prevention and safety for Active Aging* (funding by the Lombardy Region “Fondo per la promozione di Accordi Istituzionali”) - Total budget managed by BM Colosimo: 250.000 Euro
- 2010-2012 Stima: ST.I.M.A. - Hybrid Structure for Mechanics and Aerospace - (funded by the Lombardy Region - “Fondo per la promozione di Accordi Istituzionali”) - Total budget managed by B.M. Colosimo: 95.000 Euro
- 2011-2013 Rems: A Lombardy Network to achieve excellence in Mechanical systems - (funded by the Lombardy Region - “Fondo per la promozione di Accordi Istituzionali”) - contribution to the task on multiresolution metrology data fusion.
- 2010-2012 PRIN 2008: Large-scale coordinate metrology: study and realization of an innovative system based on a network of distributed and cooperative wireless sensors - funded by MIUR (Italian Ministry of Research and Education). Role: Leader of the research activity on *multisensor data fusion via Gaussian processes (GPs)*.
- 2007- 2010 PNR-FIRB 2006 Technologies for high value-added processes and products - funded by MIUR (Italian Ministry of Research and Education) - Funded budget managed by B.M. Colosimo: 149.000 Euro. Role: project leader.
- 2006-2008 PRIN 2005: Characterization of the multiscale geometry of manufactured surfaces for process control and tolerance analysis - funded by MIUR (Italian Ministry of Research and Education). Funded budget: 131.000 Euro. Role: research contribution to develop new approach for quality monitoring of profiles and surfaces.
- COFIN 2001: Distributed planning of process and products in manufacturing - funded by MIUR (Italian Ministry of Research and Education);
- 2000-2002: COFIN 2000: Models for production planning in innovative production system - funded by MIUR (Italian Ministry of Research and Education);
- CNR 1997: Models and methods for mathematics and Engineer: approximate methods for performance evaluation of manufacturing systems - funded by CNR (Centro Nazionale Ricerca).
- 2012-2015: European project *MuProD - Innovative proactive Quality Control system for in-process multi-stage defect reduction* (2012-2015) supported by the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement number 285075 - Number of partners: 13 partners - Total budget to PoliMI 633.700 Euro, Funding budget managed by B.M. Colosimo: 189 KEuro - Role: Leader of activities on *Data knowledge extraction and in-process monitoring* <http://www.muprod.eu>
- 1997-2000: European Project *MOD FLEX PROD: A New Modular System Architecture for Increasing Productivity and Flexibility* (1997, CT970440), an EU funded research project under the 4th Framework.. Number of partners: 7. Funding for the Department of Mechanical Engineer: 116.000 Euro. Role: Task leader.

She contributed to the research activities in two projects funded by the *National Science Foundation (NSF)*, namely:

- *On-line Profile-to-Profile Process Adjustment for Robust Parameter Design Scenarios.* (\$230,000, 8/15/2008 to 7/31/2011) - Engineering Statistics laboratory - PSU.
- *Statistical Adjustment for Short Run Manufacturing: Parametric Optimization, Robustness Analysis, and Ensemble Control using Gibbs Sampling,* (\$193,000, June 2002-May 2005) - Engineering Statistics laboratory - PSU

Consulting and Industrial experience:

- Research Collaboration on Melt Pool Monitoring System - Phase I (funded by Trumpf GmbH) (completed in 2020) Goal: analysis, test and comparison of in-situ monitoring methods for anomaly detection via co-axial photodiode measurements.
- Research Collaboration on Melt Pool Monitoring evaluation and Open Data Challenge - Phase II (funded by Trumpf GmbH) (completed in 2021) Goal: study of in-situ monitoring methods for local deviation detection based on co-axial photodiode measurements; development and deployment of an open data challenge initiative based on in-situ melt-pool measurements.
- Research Collaboration on In-situ monitoring in Electron Beam Melting (Funded by GE Avio Aero) (on going) Goal: study of in-situ monitoring methods for the detection of volumetric defects (pores) in the production of TiAl turbine blades via EBM
- 2018 - *In-situ sensing and monitoring in machining* (Beretta-MCM s.p.A.)
- 2014: *Study of the procedure to compute the resolution of linear measurement systems* (Marposs S.p.A-)
- 2014: *Design and quality control of a new venipuncture product* (Artsana)- Role: contribution to the evaluation of the existing procedures for quality monitoring and control.
- 2011 - *Chatter control for cylindrical grinding* POMINI-Tenova (21 months - from Dec 2011)
- 2011 - *Tapping process Monitoring* funded by Marposs Artis (36 months from Nov 2011) -
- 2005 Statistical Process Control - consulting to the Production Managers of all the European plants of Stanley Europe.

Patents

- Colosimo, B.M., Grasso, M., Rossi, E., Previtali, B., Demir, A. G., "Dispositivo per la rimozione in situ di difetti durante la stampa additiva di parti metalliche", National patent application n. 102018000010598, 27/11/2018
- Colosimo, B.M., Grasso, M., Fogliazza, G., "Apparato di monitoraggio per identificazione di anomalie e percorsi di degrado in una macchina utensile", National patent application n. 102019000004617, 27/03/2019

PUBLICATIONS:

Books:

1. P.F. Antonietti, P. Bertola, A. Capone, B.M. Colosimo, D. Moscatelli, C. Pacchi, C., and S. Ronchi. (2021). *THE AGE OF SCIENCE-TECH UNIVERSITIES: RESPONSIBILITIES, CHALLENGES AND STRATEGIES*. 2021, Routledge
2. B.M. Colosimo and N. Senin (Eds.), 2010, *GEOMETRIC TOLERANCES: IMPACT ON DESIGN, INSPECTION AND PROCESS MONITORING*, Springer.
3. B.M. Colosimo and E. del Castillo (Eds.), 2006, *BAYESIAN PROCESS MONITORING, CONTROL AND OPTIMIZATION*, Chapman and Hall/CRC, 2006.

Chapters in books:

4. M. Grasso, B.M. Colosimo, K. Slattery, E. MacDonald, W.M. Keck - (2021). *PROCESS MONITORING OF LASER POWDER BED FUSION* in I. Yadroitsev, I. Yadroitsava, A. Du Plessis, E. MacDonald (Eds.) *FUNDAMENTALS OF LASER POWDER BED FUSION OF METALS*. Elsevier
5. B.M. Colosimo and M. Grasso (2020). *ON-MACHINE MEASUREMENT, MONITORING AND CONTROL*. In R. Leach, S. Carmignato (Eds.) *PRECISION METAL ADDITIVE MANUFACTURING*, CRC Press (Boca Raton)
6. B.M. Colosimo, M. Pacella, and Q. Semeraro, 2011, *STATISTICAL PROCESS CONTROL FOR GEOMETRIC SPECIFICATIONS*, in Rassoul R. Noorossana, A. Saghei, and A. Amiri (Eds.), *STATISTICAL ANALYSIS OF PROFILE MONITORING*, 2011, Wiley.
7. B.M. Colosimo, F. Mammarella and S. Petrò, 2010, *QUALITY CONTROL OF MANUFACTURED SURFACES*, in Lenz, Hans-Joachim; Wilrich, Peter-Theodor; Schmid, Wolfgang (Eds.) *FRONTIERS IN STATISTICAL QUALITY CONTROL 9*, 2010, ISBN: 978-3-7908-2379-0, Springer.
8. B.M. Colosimo, M. Pacella, and Q. Semeraro, 2010, *STATISTICAL QUALITY MONITORING OF GEOMETRIC TOLERANCES: THE INDUSTRIAL PRACTICE* in B.M. Colosimo and N. Senin (Eds.), *GEOMETRIC TOLERANCES: IMPACT ON DESIGN, INSPECTION AND PROCESS MONITORING*, Springer.
9. B.M. Colosimo and M. Pacella, 2010, *MODEL-BASED APPROACHES FOR QUALITY MONITORING OF GEOMETRIC TOLERANCES* in B.M. Colosimo and N. Senin (Eds.), *GEOMETRIC TOLERANCES: IMPACT ON DESIGN, INSPECTION AND PROCESS MONITORING*, Springer.
10. B.M. Colosimo and M. Pacella, 2010, *QUALITY MONITORING OF GEOMETRIC TOLERANCES: A COMPARISON STUDY* in B.M. Colosimo and N. Senin (Eds.), *GEOMETRIC TOLERANCES: IMPACT ON DESIGN, INSPECTION AND PROCESS MONITORING*, Springer.
11. E. del Castillo and B. M. Colosimo, 2006, *AN INTRODUCTION TO BAYESIAN INFERENCE IN PROCESS MONITORING, CONTROL, AND OPTIMISATION* in B.M. Colosimo and E. del Castillo (Eds.) *BAYESIAN PROCESS MONITORING, CONTROL AND OPTIMIZATION*, Chapter 1, 2006, Chapman and Hall/CRC.
12. B.M. Colosimo, 2007, *BAYESIAN CONTROL CHARTS* in *ENCYCLOPEDIA OF STATISTICS IN QUALITY AND RELIABILITY*, vol. 1 pp.169-174, ISBN 978-0-470-01861-3, John Wiley & Sons.

13. B.M. Colosimo and E. del Castillo, 2006, *MODERN NUMERICAL METHODS IN BAYESIAN COMPUTATION* in B.M. Colosimo and E. del Castillo (Eds.) ***BAYESIAN PROCESS MONITORING, CONTROL AND OPTIMIZATION***, Chapter 2, 2006, Chapman and Hall/CRC.

Referred journals:

14. Parenti, P., Puccio, D., Colosimo, B. M., & Semeraro, Q. (2022). *A new solution for assessing the printability of 17-4 PH gyroids produced via extrusion-based metal AM*. ***Journal of Manufacturing Processes***, 74, 557-572.
15. Demir, A. G., Kim, J., Caltanissetta, F., Hart, A. J., Tasan, C. C., Previtali, B., & Colosimo, B. M. (2022). Enabling multi-material gradient structure in laser powder bed fusion. ***Journal of Materials Processing Technology***, 301, 117439.
16. Bugatti, M., & Colosimo, B. M. (2021). Towards real-time in-situ monitoring of hot-spot defects in L-PBF: a new classification-based method for fast video-imaging data analysis. ***Journal of Intelligent Manufacturing***, 33(1), 293-309.
17. Colosimo, B. M., del Castillo, E., Jones-Farmer, L. A., & Paynabar, K. (2021). Artificial intelligence and statistics for quality technology: an introduction to the special issue. ***Journal of Quality Technology***, 53(5), 443-453.
18. Pfeiffer S., Florio K.; Puccio D. Grasso M., Colosimo B.M., Aneziris C. G., Wegener K., Graul T. (2021) *Laser additive manufacturing of high performance oxide ceramics: a state-of-the-art review*, submitted to ***Journal of the European Ceramic Society***
19. Tsiamyrtzis, P., Grasso, M. L. G., & Colosimo, B. M. (2021). Image based statistical process monitoring via partial first order stochastic dominance. ***Quality Engineering***, 1-29.
20. Santoni S., Gugliandolo S.G., Sponchioni M., Moscatelli D. and Colosimo B.M. (2021) - *3D Bioprinting: Current status and trends - A guide to the literature and industrial practice* ***Bio-Design and Manufacturing***, 1-29 (2021).
21. Vasilevska E., Demir A.G., Colosimo B.M., Previtali B. (2021) A novel paradigm for feedback control in LPBF: layer-wise correction for overhang structures accepted - ***Advances in Manufacturing***
22. Grasso M., Remani, Dickins, Leach, Colosimo, (2021) In-situ measurement and monitoring methods for metal powder bed fusion – an updated review, accepted ***Measurement Science and Technology***
23. Colosimo B.M., Grasso M., Garghetti F., Rossi, (2021) Complex geometries in additive manufacturing: A new solution for lattice structure modeling and monitoring, ***Journal of Quality Technology***, 1-23.
24. Scimone R., Taormina T., Menafoglio A., Grasso M., Colosimo B.M., Secchi P (2021) Statistical modelling and monitoring of geometrical deviations in complex shapes with application to Additive Manufacturing, ***Technometrics***, 1-20, 2021
25. Wang J, Zou R, Colosimo BM, Lu W, Zhou L., and Jiang X.J., (2021) Characterization of freeform, structured surfaces in T-spline spaces and its applications - ***Surface Topography: Metrology and Properties***
26. Florio, K., Puccio, D., Pfeiffer, S., Verga, F., Grasso, M., Colosimo, B.M., Graule, T., Wegener, K. (2021) *PROCESS CHARACTERIZATION AND ANALYSIS OF CERAMIC POWDER BED FUSION*, accepted ***International Journal of Advanced Manufacturing Technology***
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130. B.M. Colosimo, W. Polini and Q. Semeraro, 2003, *A BAYESIAN APPROACH TO NON-LINEAR STATISTICAL TOLERANCE ANALYSIS WITH VARIANCE COMPONENT MODELS*, the 8th CIRP International Seminar on Computer Aided Tolerancing 2003, Charlotte, North Carolina, April 2003, pp. 132-141.
131. B.M. Colosimo and Q. Semeraro, 2002, *A BAYESIAN CONTROL CHART FOR SERVICE QUALITY CONTROL*, 2002 Proceedings of the American Statistical Association, Quality & Productivity Research Conference, Tempe, Arizona June 5-7, 2002.
132. B.M. Colosimo and M. Monno, 1999, *SURFACE STRENGTHENING BY WATER JET PEENING*, 5th International Conference on Advanced Manufacturing Systems - AMST '99 Udine, Italy 3-4 June 1999.
133. B.M. Colosimo, M. Pellizzaro, Q. Semeraro and T. Tolio, 1999, *APPGI: A NEW APPROACH FOR ALTERNATIVE PROCESS PLANS GENERATION*, 32nd CIRP International Seminar on Manufacturing Systems, Leuven, Belgium, May 24-26 1999.
134. B.M. Colosimo, D. Conti, A. Grieco and T. Tolio, 1998, *FMS LOADING IN PRESENCE OF TOOL SHARING*, CIRP International Seminar on Intelligent Computation in Manufacturing Engineering - ICME '98, 1-3 July 1998, Capri (Naples), Italy.
135. B.M. Colosimo, A. Grieco, Q. Semeraro and T. Tolio, 1997, *TOOLING CONFIGURATION IN FMSS: AN ANALYTICAL MODEL FOR PERFORMANCE EVALUATION*, IFAC-Workshop on Manufacturing Systems: Modelling, Management and Control MIM '97, Vienna, Austria, February 5-7 1997, pp. 479-484.
136. B.M. Colosimo, A. Grieco, Q. Semeraro and T. Tolio, 1997, *AN ALGORITHM FOR REAL TIME PART DISPATCHING UNDER TOOL CONSTRAINT IN FMSS*, Second International ICSC Symposium on Intelligent Industrial Automation - IIA '97 - Nimes, France, September 17-19 1997, pp.176-181.

Invited talks without proceedings:

1. Caltanissetta F., Grasso M., Petró S., Colosimo, B. M. (2018) Layerwise Imaging for In-situ Metrology in Laser Powder Bed Fusion Process: A Preliminary Study, 2018 ASPE and EUSPEN Summer Topical Meeting Advancing Precision in Additive Manufacturing, July 22-25, 2018, Lawrence Berkeley National Laboratory, Berkeley, California, USA
2. Moridi A., Demir A. G., Grasso M., Previtali B., Colosimo B., Hart J., Tasan C. 2019, *EXPLORING MICROSTRUCTURE TAILORING OF Ti-6Al-4V USING INTERLAYER LASER ANNEALING ALONG WITH LAYERWISE SELECTIVE LASER MELTING* to be presented at 2019 TMS Annual Meeting & Exhibition. 10-14 March, 2019 San Antonio, TX, USA
3. Grasso M., Lopez E., Lecomte J., Colosimo, B.M. (2018) LILIAM. Life-long learning in additive manufacturing, EUROPM 2018 – Special Interest Seminar, Competitive & Sustainable Powder Metallurgy Industry, October 17, 2018, Bilbao, Spain.
4. Grasso M., Colosimo B.M. (2018), *IN-SITU PROCESS MONITORING IN METAL POWDER BED FUSION PROCESSES BY MEANS OF MULTI-SENSOR DATA MINING METHODS*, ECSSMET 2018 Conference, June 2018, ESTEC (ESA), Noordwijk, Netherlands
5. Grasso M., Caltanissetta F., Petró S., Colosimo B.M. (2018), *IN-SITU MONITORING OF GEOMETRIC ACCURACY IN LASER POWDER BED FUSION PROCESSES*, EUSPEN's 18th International Conference and Exhibition, June 2018, Venice, Italy (poster)
6. Grasso M., Colosimo B.M. (2018), *STATISTICAL PROCESS MONITORING OF POWDER BED FUSION PROCESSES VIA IN-SITU VIDEO IMAGING*, FACAM 2018, January 2018, Los Angeles, USA
7. Grasso M., Repossini G., Colosimo B.M. (2017), *STATISTICAL PROCESS MONITORING AND CONTROL METHODS FOR IN-SITU DETECTION AND LOCALIZATION OF DEFECTS IN LPBF*, Joint Special Interest Group meeting between EUSPEN and ASPE, *DIMENSIONAL ACCURACY AND SURFACE FINISH IN ADDITIVE MANUFACTURING*, October 2017, KU Leuven, BE
8. Grasso M., Lopez E., Lecomte J., Colosimo, B.M. (2018) LILIAM. Life-long learning in additive manufacturing, EUROPM 2018 - Special Interest Seminar, Competitive & Sustainable Powder Metallurgy Industry, October 17, 2018, Bilbao, Spain.
9. B.M. Colosimo M. Grasso, 2016, *SPATIAL MODELS IN METAL ADDITIVE MANUFACTURING* Informs, November 2016 - Nashville (invited)
10. B.M. Colosimo M. Grasso, 2016, *QUALITY MONITORING, CONTROL AND IMPROVEMENT IN ADDITIVE MANUFACTURING: CHALLENGES AND OPPORTUNITIES* Enbis, September 2016 - Sheffield
11. B.M. Colosimo M. Grasso, 2016, *STATISTICAL QUALITY MONITORING IN ADDITIVE MANUFACTURING: OPPORTUNITIES AND CHALLENGES*, The Fourth International Conference on the Interface between Statistics and Engineering 2016 (The 4th ICISE) 20-22 June 2016, University of Palermo, Italy
12. B.M. Colosimo, 2015, *MULTISENSOR DATA FUSION FOR SURFACE METROLOGY*, ISSPM 2015 4th International Symposium on Statistical Process Monitoring, July 7-9, 2015 Padua
13. B.M. Colosimo, 2015: *FROM PROFILE TO SURFACE MONITORING: SPC FOR CYLINDRICAL SURFACES VIA GAUSSIAN PROCESSES*, Invited presentation to the JQT session - INFORMS Philadelphia (US) November 1-4 2015.
14. B.M. Colosimo, 2015: 2015 Invited lecture - USC (Los Angeles - USA) November 3, 2015 - *STATISTICAL QUALITY MONITORING OF ADVANCED MANUFACTURING PROCESSES: OPEN CHALLENGES AND POSSIBLE SOLUTIONS*

15. B.M. Colosimo, M. Grasso, A. Menafoglio and P. Secchi, 2014, *COMBINING WARPING FUNCTIONS AND FUNCTIONAL PRINCIPAL COMPONENT ANALYSIS TO ENHANCE PROFILE MONITORING OF SIGNAL DATA*, accepted for presentation to the Joint Research Conference 2014, June 24-26, 2014, Seattle (USA)
16. Invited discussant at the First Stu Hunter Conference - 12-15 March 2013 - NH Marquette Netherlands (discussant of the paper Latent structures based-multivariate Statistical process control: A paradigm shift presented by A. Ferrer).
17. M. Grasso and B.M. Colosimo, 2013, *QUALITY MONITORING OF MANUFACTURING PROCESSES BY IN-PROCESS SENSOR SIGNALS*, INFORMS Annual Meeting, 2013, 4-9 October Minneapolis.
18. B.M. Colosimo, E. del Castillo and H. Alshraideh, 2012, *BAYESIAN MODELING AND OPTIMIZATION OF FUNCTIONAL RESPONSES AFFECTED BY NOISE FACTORS*, INFORMS Annual Meeting, 2012 October 14-17, JQT invited session (invited talk for the best paper published on JQT in 2012).
19. P. Cicorella, M. Pacella and B. M. Colosimo, 2011, *AN SPC PROCEDURE BASED ON MULTISENSOR METROLOGY DATA FUSION*, INFORMS Annual Meeting, Charlotte, November 13-16, 2011.
20. B.M. Colosimo, 2007, *ON THE USE OF PROFILE MONITORING FOR QUALITY CONTROL OF GEOMETRICAL PRODUCT SPECIFICATIONS*, INFORMS Annual Meeting, Seattle, November 4-7, 2007.
21. B.M. Colosimo, M. Pacella and Q. Semeraro, 2006, *QUALITY CONTROL OF GEOMETRIC FEATURES: MONITORING ROUNDNESS PROFILES OBTAINED BY TURNING*. 2006 Joint Research Conference on Statistics in Quality, Industry and Technology, Knoxville, TN, June 7-9, 2006.

National referred conferences (peer-reviewed):

1. M. Grasso, G. Repossini, B.M. Colosimo, 2017, In-situ Monitoring of Metal Additive Manufacturing Processes via Spatter signature, XIII Aitem, 2017
2. M. Grasso, B.M. Colosimo, 2015, Statistical Quality Monitoring via sensor data: Opportunities and challenges, Aitem 2015
3. B.M. Colosimo and M. Pacella, 2011, *ON INTEGRATING MULTISENSOR DATA FOR QUALITY INSPECTION AND MONITORING*, X Convegno A.I.Te.M., 2011, Napoli, 12-14 September 2011.
4. B.M. Colosimo and M. Pacella, 2007, *CONTROL CHARTS FOR FUNCTIONAL DATA: A COMPARISON STUDY*. VIII A.I.Te.M., 2007, Montecatini Terme, 10-12 September 2007.
5. B.M. Colosimo and M. Pacella, 2005, *A PROFILE-MONITORING METHOD FOR QUALITY CONTROL OF MANUFACTURED ITEMS*. VII A.I.Te.M., 2005, Lecce, 7-9 September 2005
6. B.M. Colosimo, M. Monno and Q. Semeraro, 1999, *DESCALING BY PURE WATER JET*, IV A.I.Te.M., Brescia, 13-15 September 1999.

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8. B.M. Colosimo, L. Imberti and T. Tolio, 2001, *APPG A METHOD TO AUTOMATICALLY TRANSFORM A LINEAR PART PROGRAM IN A NETWORK PART PROGRAM*, V A.I.Te.M., Bari, 18-20 September 2001.
9. B.M. Colosimo, 2001, *SERVICE QUALITY CONTROL USING BAYESIAN NETWORK*, V Convegno A.I.Te.M., Bari, 18-20 September 2001- Award Young Researcher by the A.I.Te.M association.
10. B.M. Colosimo and Q. Semeraro, 1999, *ECONOMIC DESIGN OF A BAYESIAN ADAPTIVE CONTROL CHART FOR NONCONFORMITIES*, IV A.I.Te.M., Brescia, 13-15 September 1999.

National journals and books:

1. M. Annoni, R. Bini, B.M. Colosimo, A.E. Kutlu and M. Monno, 2008, *CARATTERIZZAZIONE E OTTIMIZZAZIONE DEL PARAMETRI DI TAGLIO NEL PLASMA AD ALTA DEFINIZIONE*, LAMIERA, pp. 114-121, vol. 10.
2. B.M. Colosimo, 2005, *SISTEMI AUTOMATICI PER IL CONTROLLO QUALITÀ - EFFETTI DELL'INTRODUZIONE DI SISTEMI AUTOMATICI PER IL CONTROLLO QUALITÀ SULLE PRINCIPALI TECNICHE DI STATISTICAL PROCESS CONTROL (SPC)*, Qualità on-line, Anno XXXV - n° 1, Settembre 2005
3. B.M. Colosimo, G. Moroni, Q. Semeraro, T.Tolio, S. Noto La Diega, G. Perrone, A. Zinno, A. Anglani, A. Greco and F. Nucci, 2001, In Modelli per la gestione di sistemi di produzione in condizione di incertezza a cura di A. Villa. *CAPITOLO 5: Strumenti innovativi di simulazione*.
4. B.M. Colosimo, G. Moroni, Q. Semeraro, T.Tolio, A. Anglani, A. Greco and E. Guerriero, 2001, In Modelli per la gestione di sistemi di produzione in condizione di incertezza a cura di A. Villa. *CAPITOLO 3: MODELLI DI ALLOCAZIONE DELLA CAPACITÀ PRODUTTIVA IN SISTEMI A MACCHINE PARALLELE*.
5. B.M. Colosimo and G. Motter, 1999, *PALLINATURA A GETTO D'ACQUA (WATER JET PEENING): UN NUOVO PROCESSO DI TRATTAMENTO DELLE SUPERFICI*, Tecniche nuove - Luglio 1999.