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General information

Bianca Maria Colosimo is Full Professor in the Department of Mechanical Engineering of Politecnico di Milano (Italy), where she received her M.S. degree (cum Laude) in 1996 and her PhD degree in 2000, both in Industrial Engineering. She became part of the Faculty of Politecnico di Milano as Assistant Professor (1999-2003), Associate Professor (2003- 2014) and then as Full Professor (since November 2014).
Politecnico di Milano is the first engineering school in Italy, ranked 7th in Europe and 24th worldwide (QS World University Ranking 2017 – Engineering and Technology).

Her research interest is mainly in the area of **Quality Engineering** (i.e. statistical process monitoring, control and optimization), with special attention to **advanced manufacturing processes,** metal **additive manufacturing** among others. Minor research activities concern process modeling, optimization, metrology and inspection of complex products.

On these topics, she is author of about 120 contributions, half of which have been published in peer-reviewed international journals and books.

In 2001, she was post-PhD at the Engineering Statistics Laboratory of the Industrial and Manufacturing Engineering Department, Pennsylvania State University (PSU), ranked 7th in Industrial/Manufacturing according to US News[1] . Since then, she has been working together with prof. del Castillo and his research team on many different research topics.

She has been leading and contributing to different national and international research projects, mainly in the area of profile/surface data modeling, monitoring and signal data fusion for in-situ and in-line monitoring and control of manufacturing processes.

Since 2018, she is Editor-elect of the *Journal of Quality Technology*. She has been member of the Editorial Board of *Journal of Quality Technology* (since 2006), Associate Editor of *IISE Transactions* (since 2016), Council member of *ENBIS*, the European Network of Business and Industrial Statistics (since 2016). She is referee for several international scientific journals, including *Technometrics*, *Quality Engineering*, *International Journal of Production Research*, *Journal of Applied Statistics*, *Quality & Reliability Engineering International*, *Computers & Industrial Engineering*, *Measurement Science and Technology*, *Computational Statistics,* among others.

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[1] https://www.usnews.com/best-colleges/rankings/engineering-doctorate-industrial-manufacturing

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Current research

Starting from the PhD thesis, her research activities has been mainly focusing on **quality engineering problems**, with the aim of bridging the gap between research questions arising in manufacturing and possible solutions offered by methods and tools developed in industrial statistics.

A first stream of research has been devoted to **Bayesian statistics** for quality problems (quality monitoring and process adjustment). As a matter of fact, the Bayesian framework provides a way to include *a priori* information (which is very common in manufacturing engineering) to enhance solutions to quality engineering problems.

Two main directions have been characterizing her research activities in the last years.

On one side, novel approaches for modeling and monitoring **2D profiles** and **3D surfaces** have been proposed. In fact, more and more often product quality is represented by geometric tolerances, since functional performances of many high-value added systems and components are related to shapes rather than dimensions. This ingoing trend is favored by novel systems for dimensional metrology, where noncontact inspection and computer tomography are replacing traditional solutions.

On the other side, the *Industry 4.0* framework emphasizes how massive data sets are currently available in-situ and in-line to aid decision-making during product and process life-times. In this scenario, novel statistical approaches for **images**, **video-images**, multiple **signals** are needed. In this framework, current research activities are focusing on exploring challenges and opportunities of quality-related issues in **metal 3D printing** or **additive manufacturing**.

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Education

- January 2001 - August 2001 − **Visiting Post Ph.D**. at the Engineering Statistics Laboratory of 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 Manufacturiong Systems*", Politecnico di Milano, 1996. − Awarded as the best M.S. thesis in Manufacturing and Production systems by UCIMU (Unione Costruttori Italiani di Macchine Utensili −Italian Association of Manufacturing Systems and Machine tools producers).
- 1989: High School Diploma − Scientific High School (Liceo Scientifico) "L. Siciliani" (Catanzaro, Italy) − mark 60/60.

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 2018: **Editor-elect Journal of Quality Technology**
- Since 2006, Member of the **Editorial Board of Journal of Quality Technology**
- Since 2016, **Associate Editor** of **IISE Transactions − Quality and Reliability**
- 2017 member of the **QSR** (Quality, Statistics and Reliability Advisory Board of **INFORMS** (2017-2020)
- 2017 - **Council member of ENBIS** (European Network of Business and Industrial Statistics − ENBIS, constituted by four elected people to suggest possible opportunities and future directions for the ENBIS network.
- 2016, 2017- **promoter and Chairman of the ASQ International Journal Session at ENBIS** *conference*. This session was designed to promote ASQ journals to the European community of ENBIS. It is organized by asking to the editors of *Technometrics*, *Journal of Quality Technology* and *Quality Engineering* to suggest one speaker for the ENBIS conference.
- 2016: Member of the **Steering Committee** of the **Vanguard initiative on 3D printing**- a network of more than 30 regions in Europe promoting research on Additive Manufacturing (http://www.s3vanguardinitiative.eu/cooperations/high-performance-production-through-3d-printing)
- 2016 - Member of the national Board of **Fabbrica Intelligente** − the national cluster promoting research on Intelligent manufacturing
- 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)

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- 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).
- Since 2012 member of the Editorial Board of the **PoliMI SpringerBriefs** (http://www.springer.com/series/11159)
- 2013 and 2015, Managing the editorial process of the A.I.Te.M. Conferences –she has been managing the double-blinded reviewing processes of about 60 papers for two editions of the conference.

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** for Research
- 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 and SCIENTIFIC MENTIONS

- 2017- Selected among the **100 experts** in STEM - https://100esperte.it
- 2017- supervisor of two MSc thesis awarded by the UCIMU (Italian Association of Manufacturing Systems and Machine Tools producers):
  - G. Repossini - In situ sensing for zero defect additive manufacturing: a study on spatters in SLM
  - S. Cavalli - Impact of defects on additive manufacturing production: causes, models and applications
- 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.
- 2003, **Best Young Researcher Award** in Manufacturing and Production Systems, AITeM (Italian Association of Manufacturing) for the paper "*Service Quality Control using Bayesian Networks*".

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- 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.

Invited lectures and presentations (international audience)

- 2017 invited speaker at the **Massachusetts Institute of Technology (MIT)** - **professional course on Additive Manufacturing**: From 3D Printing to the Factory Floor
- 2017 **plenary talk** "Modeling and Monitoring Methods for Complex Data" (90-minute presentation followed by 90-minute discussions), at the **Stu Hunter Research Conference**, March 5-8, 2017, Copenhagen, Denmark.
- 2016 *invited research seminar* − **Georgia Tech** (Atlanta - USA). Zero-defect advanced manufacturing via statistical data modeling and monitoring. 17/11/2016
- 2016 *invited research seminar* − **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.
- 2011-2017 invited presentation to **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.
- Invited 2007 - IXth International Workshop on Intelligent Statistical Quality Control − three-year meeting of invited attendants. **Beijing,** September 12-14, 2007

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).

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RESEARCH PROJECTS:

International projects (funded as a result of competitive evaluation):

- 2016- A.MA.T.HO. - A.dditive MA.nufacturing T.iltrotor HO.using - https://www.amatho.org H2020- CleanSky 2

- 2016-17 MIT Seeds funds *−SAMM − Smart Additive Manufacturing for Metals* with John Hart - Massachusetts Institute of Technology(MIT).

- 2012-2015: Task leader in the 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 − Funding to PoliMI 633,7 KEuro, Funding budget managed by B.M. Colosimo: 189 KEuro − Role: Task leader of Task 3.2 Data knowledge extraction and in-process monitoring; important contribution to Task 3.1 Multisensor multiresolution data fusion modeling. http://www.muprod.eu

She contributed to the research activities of 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

- 1997-2000: Task leader in the 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 KEuro. Role: Task leader.

National research projects (funded as a result of competitive evaluation):

- 2017- *Made4Lo* − Additive Manufacturing for Lombardy.
- 2014-2017 Cluster Tecnologici Nazionali - Fabbrica Intelligente - Progetto High Performance Machining. Leader of WP3: Data fusion for Flexible manufacturing systems supervision. Funded budget managed by B.M. Colosimo 300 KEuro (approximately)
- 2014-2017 Cluster Tecnologici Nazionali - Fabbrica Intelligente - Progetto Sustainable Manufacturing Leader of the Activity 2.2.17 and 2.2.18 : Development and Application of new six-sigma tools for zero-defect manufacturing using contactless measuring systems. Funded budget managed by B.M. Colosimo: 81,9 KEuro
- 2014-2015 SMARTA" − A network of monitoring sensors to support health, prevention and safety for Active Aging (funded by Regione Lombardia - "Fondo per la promozione di Accordi Istituzionali") - Funding budget managed by the research group leaded by BM Colosimo: 250 KE

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- 2010-2012 Stima: ST.I.M.A. – Hybrid Structure for Mechanics and Aerospace – (funded by Regione Lombardia - "Fondo per la promozione di Accordi Istituzionali") - Funding budget managed by the research group in Manufacturing (Polimi): 246 KE; budget managed by B.M. Colosimo: 95 KE
- 2011-2013 Rems: A Lombardy Network to achieve excellence in Mechanical systems - (funded by Regione Lombardia - "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 (Ministero dell'Istruzione, dell'Università e della Ricerca). Role: research contribution to the task of multisensor data fusion via Gaussian processes (GPs).
- 2007- 2010 PNR-FIRB 2006 Technologies for high value-added processes and products - funded by MIUR (Ministero dell'Istruzione, dell'Università e della Ricerca) - Funded budget managed by B.M. Colosimo: 149 KEuro. Role: project leader.
- 2006-2008 PRIN 2005: Characterization of the multiscale geometry of manufactured surfaces for process control and tolerance analysi**s** - funded by MIUR (Ministero dell'Istruzione, dell'Università e della Ricerca). Funded budget: 131 KEuro. 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 (Ministero dell'Istruzione, dell'Università e della Ricerca);
- 2000-2002: COFIN 2000: Models for production planning in innovative production system - funded by MIUR (Ministero dell'Istruzione, dell'Università e della Ricerca);
- CNR 1997: Models and methods for mathematics and Engineer: approximate methods for performance evaluation of manufacturing systems - funded by CNR (Centro Nazionale Ricerca).

Research projects funded by industrial companies:

- Project leader: Chatter control on Pomini-Tenova machines for cylindrical grinding of cylinders for hot rolling funded by POMINI-Tenova (21 mounths – 91.96 KE – starting December 2011) –
- Project leader: Tapping process Monitoring funded by Marposs Artis (36 mounths – 43.88 KE – starting November 2011) –
- Project leader*: SPC Security Printing (Parvis systems and services srl) (three months – 8 KEuros)*

Consulting experience:

- 2014: Study of the procedure to compute the resolution of linear measurement systems (Marposs S.p.A-). Role: project leader.
- 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.
- 2005   Statistical Process Control – consulting to the Production Managers of all the European plants of Stanley Europe. Role: project leader.

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PUBLICATIONS:

Referred journals:

1. B.M. Colosimo, 2018, *MODELING AND MONITORING METHODS FOR SPATIAL AND IMAGE DATA,* **Quality Engineering**, *http://www.tandfonline.com/doi/abs/10.1080/08982112.2017.1366512?journalCode=lqen20*

2. M. Grasso, A.G. Demir, B. Previtali, B.M Colosimo. 2018, *IN SITU MONITORING OF SELECTIVE LASER MELTING OF ZINC POWDER VIA INFRARED IMAGING OF THE PROCESS PLUME*, **Robotics and Computer-Integrated Manufacturing**, Vol. 49, pp. 229-239.

3. G. Repossini, V., Laguzza, M., Grasso, B.M. Colosimo, 2017, *ON THE USE OF SPATTER SIGNATURE FOR IN-SITU MONITORING OF LASER POWER BED FUSION*, **Additive Manufacturing, vol.** 16 pp. 35-48, 2017

4. M. Grasso, B.M. Colosimo, B. M., F. Tsung, 2017, *A PHASE I MULTI-MODELLING APPROACH FOR PROFILE MONITORING OF SIGNAL DATA.* **International Journal of Production Research**, 55(15), 4354-4377.

5. B.M. Colosimo, M, Grasso, 2017, *SPATIALLY WEIGHTED PCA FOR MONITORING VIDEO IMAGE DATA WITH APPLICATION TO ADDITIVE MANUFACTURING,* **Journal of Quality Technology,** under the second step of review

6. M. Grasso, and B.M. Colosimo, 2017, *PROCESS DEFECTS AND IN SITU MONITORING METHODS IN METAL POWDER BED FUSION: A REVIEW.* **Measurement Science and Technology**, 28(4), 044005.

7. M. Grasso, V. Laguzza, Q., Semeraro, and B.M. Colosimo, 2017, In-*PROCESS MONITORING OF SELECTIVE LASER MELTING: SPATIAL DETECTION OF DEFECTS VIA IMAGE DATA ANALYSIS.* **Journal of Manufacturing Science and Engineering**, 139(5), 051001.

8. P., Parenti, L. Pagani, M. Annoni, B.M. Colosimo, Q. Semeraro, 2017, *ON THE GEOMETRICAL ACCURACY OF HIGH ASPECT RATIO MICROMILLED PINS.* **Journal of Manufacturing Science and Engineering**, 139(5), 051002.

9. A. Pini, S., Vantini, B.M, Colosimo, and M. Grasso, 2017, *DOMAIN-SELECTIVE FUNCTIONAL ANALYSIS OF VARIANCE FOR SUPERVISED STATISTICAL PROFILE MONITORING OF SIGNAL DATA.* **Journal of the Royal Statistical Society: Series C (Applied Statistics).**

10. J. Wang, L. Pagani, R.K., Leach, W. Zeng, B.M. Colosimo, and L. Zhou, 2017, *STUDY OF WEIGHTED FUSION METHODS FOR THE MEASUREMENT OF SURFACE GEOMETRY.* **Precision Engineering**, 47, 111-121.

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11. M. Grasso , S. Chatterton, P. Pennacchi, and B.M. Colosimo, 2016, *A DATA-DRIVEN METHOD TO ENHANCE VIBRATION SIGNAL DECOMPOSITION FOR ROLLING BEARING FAULT ANALYSIS*. **Mechanical Systems and Signal Processing**, 81, 126-147.

12. M. Pacella, B.M. Colosimo, 2016, *MULTILINEAR PRINCIPAL COMPONENT ANALYSIS FOR STATISTICAL MODELING OF CYLINDRICAL SURFACES: A CASE STUDY*, **Quality Technology & Quantitative Management,** vol 1, p.1-9, ISSN:1684-3703 http://www.tandfonline.com/doi/full/10.1080/16843703.2016.1226710,

13. M. Grasso, B.M. Colosimo, 2016, *AN AUTOMATED APPROACH TO ENHANCE MULTISCALE SIGNAL MONITORING OF MANUFACTURING PROCESSES*, **Journal of Manufacturing Science and Engineering- ASME**, 138(5), 051003 (Nov 16, 2015) (16 pages), doi: 10.1115/1.4031797

14. M. Grasso, A., Menafoglio, B.M. Colosimo, and P. Secchi, 2016. *USING CURVE-REGISTRATION INFORMATION FOR PROFILE MONITORING.* **Journal of Quality Technology,** 48(2), 99.

15. M. Grasso, B.M. Colosimo, Q. Semeraro, M. Pacella, 2015, *A COMPARISON STUDY OF DISTRIBUTION-FREE MULTIVARIATE SPC METHODS FOR MULTIMODE DATA,* **Quality and Reliability Engineering International**, Feb 2015 - 31, 1, pp. 75–96.

16. B.M. Colosimo, M. Meneses, Q. Semeraro, 2015, On the *EFFECTIVENESS OF PROFILE MONITORING TO ENHANCE FUNCTIONAL PERFORMANCE OF PARTICLEBOARDS*, **Quality and Reliability Engineering International,** 2015, 31 pp. 1665–1674

17. B.M. Colosimo, M. Pacella, N. Senin, 2015, *MULTISENSOR DATA FUSION VIA GAUSSIAN PROCESS MODELS FOR DIMENSIONAL AND GEOMETRIC VERIFICATION*, **Precision Engineering**, April 2015 (40), Pages 199–213.

18. B.M. Colosimo, L. Pagani, M. Strano, 2015, *REDUCTION OF CALIBRATION EFFORT IN FEM-BASED OPTIMIZATION VIA NUMERICAL AND EXPERIMENTAL DATA FUSION*, **Structural and Multidisciplinary Optimization**, (2015) 51:463–478.

19. E. Del Castillo, B.M. Colosimo, S. Tajbakhsh, 2015, *GEODESIC GAUSSIAN PROCESSES FOR THE RECONSTRUCTION OF A FREE-FORM SURFACE*, **Technometrics** , (2015) 57, 1, pp. 87-98 - DOI:10.1080/00401706.2013.879075,

   Paper invited to be presented in the Technometrics session of the next Joint Research Conference June 24-26 2014 (Seattle, USA) - http://jrc2014.org/program.html.

20. M. Grasso, B.M. Colosimo, M. Pacella, 2014, *PROFILE MONITORING VIA SENSOR FUSION: THE USE OF PCA METHODS FOR MULTI-CHANNEL DATA*, **International Journal of Production Research**, (2014) 72, pp. 347–364.

21. M. Grasso, P. Pennacchi, B.M. Colosimo, 2014, *EMPIRICAL MODE DECOMPOSITION OF PRESSURE SIGNAL FOR HEALTH CONDITION MONITORING IN WATERJET CUTTING* – to appear in **International Journal of Advanced Manufacturing Technology**, published online: Feb 2014, DOI 10.1007/s00170-014-5671-4 available at: http://link.springer.com/article/10.1007%2Fs00170-014-5671-4

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22. B.M. Colosimo, P. Cicorella, M. Pacella, M. Blaco, 2014, *FROM PROFILE TO SURFACE MONITORING: SPC FOR CYLINDRICAL SURFACES VIA GAUSSIAN PROCESSES*, **Journal of Quality Technology**, Vol. 46, No. 2, April 2014, pp. 95-113.

23. D. Colombo, B.M. Colosimo, B. Previtali, 2013, *COMPARISON OF METHODS FOR DATA ANALYSIS IN THE REMOTE MONITORING OF REMOTE LASER WELDING*, **Optics and Lasers in Engineering**, Vol. 51 (2013), pp. 34–46.

24. N. Senin, M. Pacella, B.M. Colosimo, 2013, *POINT SET AUGMENTATION THROUGH FITTING FOR ENHANCED ICP REGISTRATION OF POINT CLOUDS IN MULTISENSOR COORDINATE METROLOGY*, **Robotics and Computer-Integrated Manufacturing,** Vol. 29 (2013), pp. 39–52.

25. M. Grasso, M. Goletti, M. Annoni, B. M. Colosimo, 2013, *A NEW APPROACH FOR ONLINE HEALTH ASSESSMENT OF ABRASIVE WATERJET CUTTING SYSTEMS*, **Int. J. Abrasive Technology**, Vol. 6, No. 2, 2013, pp.158–181.

26. E. del Castillo , B.M. Colosimo, and H. Alshraideh, 2012, *BAYESIAN MODELING AND ROBUST OPTIMIZATION OF FUNCTIONAL RESPONSES AFFECTED BY NOISE FACTORS*, **Journal of Quality Technology**, Vol. 44, Number 2, April 2012, pp. 117-135.

27. E. del Castillo and B.M. Colosimo, 2011, *STATISTICAL SHAPE ANALYSIS OF EXPERIMENTS FOR MANUFACTURING PROCESSES*, **Technometrics**, Vol. 53, number 1, pp. 1–15, 2011.

28. E. Gutiérrez, B.M. Colosimo, Q. Semeraro, L. Onieva, 2011, *DESIGN OF GENERAL-PURPOSE SAMPLING STRATEGIES FOR GEOMETRIC SHAPE MEASUREMENT*, **International Journal of Process Systems Engineering**, Vol. 1, number 2, pp. 184-196, 2011.

29. B.M. Colosimo and M. Pacella, 2011, *ANALYSING THE EFFECT OF PROCESS' PARAMETERS ON THE SHAPE OF 3D PROFILES*, **Journal of Quality Technology**, Vol. 43, number 3, JULY 2011,

30. B.M. Colosimo and M. Pacella, 2010, *A COMPARISON STUDY OF CONTROL CHARTS FOR STATISTICAL MONITORING OF FUNCTIONAL DATA*, **International Journal of Production Research**, Vol. 48, number 6, pp. 1575–1601.

31. B.M. Colosimo, G. Moroni and S. Petrò, 2010, *A TOLERANCE INTERVAL BASED CRITERION FOR OPTIMIZING DISCRETE POINT SAMPLING STRATEGIES*, Precision Engineering, Vol. 34 (2010), pp. 745–754.

32. B.M. Colosimo, G. Moroni and M. Grasso, 2010, *REAL-TIME TOOL CONDITION MONITORING IN MILLING BY MEANS OF CONTROL CHARTS FOR AUTO-CORRELATED DATA*, **Journal of Machine Engineering**, Vol. 10, number 2, pp. 5–17, 2010.

33. R. Bini, B.M. Colosimo, A.E. Kutlu and M. Monno, 2008, *EXPERIMENTAL STUDY OF THE FEATURES OF THE KERF GENERATED BY A 200 A HIGH TOLERANCE PLASMA ARC CUTTING SYSTEM*, **Journal of Materials Processing Technology**, vol. 196, pp. 345-355.

34. 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, number 1, January 2008, pp. 1-18.

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35. B.M. Colosimo, E. Gutierrez Moya, G. Moroni and S. Petrò, 2008, *STATISTICAL SAMPLING STRATEGY FOR GEOMETRIC TOLERANCE INSPECTION BY CMM*, **Economic Quality Control**, Heldermann Verlag, Vol. 23 (2008).

36. B.M Colosimo, F. Godio and L. Palmieri, 2007, *COMPARATIVE STUDIES OF CONTROL CHARTS FOR TORQUE DATA IN AUTOMOTIVE COMPONENT ASSEMBLING*, **International Journal of Technology Management**, vol. 37, numbers 1/2, 2007, pp. 72-85.

37. B.M. Colosimo and M. Pacella, 2007, *ON THE USE OF PRINCIPAL COMPONENT ANALYSIS TO IDENTIFY SYSTEMATIC PATTERNS IN GEOMETRIC PROFILES*, **Quality & Reliability Engineering International**, vol. 23, number 6, pp. 707-725.

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International books:
52. B.M. Colosimo and N. Senin (Eds.), 2010, ***GEOMETRIC TOLERANCES: IMPACT ON DESIGN, INSPECTION AND PROCESS MONITORING***, Springer.

53. B.M. Colosimo and E. del Castillo (Eds.), 2006, ***BAYESIAN PROCESS MONITORING, CONTROL AND OPTIMIZATION***, Chapman and Hall/CRC, 2006.

Chapters in books:
54. 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.

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International referred conferences - peer-reviewed (with proceedings):

62. Massimiliano Di Mauro, Matteo F. Maggioni, Marco Grasso, Bianca Maria Colosimo, 2015, *DESIGN PERFORMANCE ANALYSIS OF A SELF-ORGANIZING MAP FOR STATISTICAL MONITORING OF DISTRIBUTION-FREE DATA STREAMS*, *48th CIRP Conference on MANUFACTURING SYSTEMS - CIRP CMS 2015*

63. A. Carroccia, M. Grasso, M. Maggioni, B. M. Colosimo, 2015, *IMPROVED SIGNAL CHARACTERIZATION VIA EMPIRICAL MODE DECOMPOSITION TO ENHANCE IN-LINE QUALITY MONITORING, 48th CIRP Conference on MANUFACTURING SYSTEMS - CIRP CMS 2015*

64. B.M. Colosimo, L. Pagani, M. Strano, 2014, *HIERARCHICAL METAMODELING: CROSS VALIDATION AND PREDICTIVE UNCERTAINTY, Key Engineering Materials*, vol. 611-612 pp. 1519-1527 (Esaform 2014).

65. M. Meneses, B.M. Colosimo, 2014, *DEVELOPMENT AND VALIDATION OF AN INSTRUMENT TO MEASURE PERCEIVED SERVICE QUALITY OF AN ACADEMIC LIBRARY IN COSTA RICA, 21st EurOMA Conference, Operations Management in an innovation economy*, 20-25 June 2014, Palermo *(Italy)*

66. Maggioni M., Marzorati E., Grasso, M., Colosimo B.M., Parenti P., 2014, *IN-PROCESS QUALITY CHARACTERIZATION OF GRINDING PROCESSES: A SENSOR-FUSION BASED APPROACH –* to be presented at *ASME 2014 12th Biennial Conference on Engineering Systems Design and Analysis (ESDA2014)* Copenhagen, Denmark, 25 – 27 June, 2014.

67. Tansky D., Fischer A., Colosimo B.M., Pagani L., Shabat Y.B., 2014, *MULTI-SENSOR MULTI-RESOLUTION DATA FUSION MODELING 24th CIRP design conference*, 14-16 April, 2014, Milano, Italy.

68. M. Annoni, B.M. Colosimo, L. Pagani, L. Rebaioli, Q. Semeraro, 2014, *GEOMETRICAL QUALITY IMPROVEMENT OF HIGH ASPECT RATIO MICROMILLED PINS Proceedings of NAMRI/SME*, Vol. 42, 2014

69. B.M. Colosimo, L. Pagani, M. Strano, 2013, *METAMODELING BASED ON THE FUSION OF FEM SIMULATIONS RESULTS AND EXPERIMENTAL DATA*, ***Key Engineering Materials***, vol. 554-557 pp. 2487-2498 (Esaform 2013).

70. B.M. Colosimo, 2013, *PROFILE AND SURFACE MONITORING METHODS FOR SHAPES*, invited contributions in the session entitled "A decade of Profile Monitoring: What's Next?", Joint Statistical Meeting 2013, Montreal Canada August 3-8 2003 (paper with proceedings).

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72. P. Cicorella, B.M. Colosimo, M. Pacella, 2013, *STATISTICAL PROCESS MONITORING OF COMPLEX SHAPES VIA GAUSSIAN PROCESS MODELING*, S.Co. 2013, Complex data Modelling and Computationally Intensive Statistical Methods for Estimation and Predictions, 9-13 September, Milano

73. D. Colombo, B. M. Colosimo, B. Previtali, D. Bassan, M. Lai and G. Masotti, 2012, *THROUGH THE OPTICAL COMBINER MONITORING IN REMOTE FIBER LASER WELDING OF ZINC COATED STEELS*, Proceedings of SPIE - The International Society for Optical Engineering 8239, art. no. 82390F (February 9, 2012), DOI:10.1117/12.909903

74. M. Grasso, B.M. Colosimo and G. Moroni, 2012, *THE USE OF ADAPTIVE PCA-BASED CONDITION MONITORING METHODS IN MACHINING PROCESSES*, Proceedings of the ASME 2012 - 11th Biennial Conference on Engineering Systems Design and Analysis, ESDA2012 July 2-4, 2012, Nantes, France

75. M. Grasso, P. Albertelli and B.M. Colosimo, 2012, *AN ADAPTIVE SPC APPROACH FOR MULTI-SENSOR FUSION AND MONITORING OF TIME-VARYING PROCESSES*, 8th CIRP Conference on Intelligent Computation in Manufacturing Engineering (CIRP ICME '12) 18 - 20 July 2012, Ischia (Naples), Italy

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80. M. Strano, B.M. Colosimo and E. Del Castillo, 2011, *IMPROVED DESIGN OF A THREE ROLL TUBE BENDING PROCESS UNDER GEOMETRICAL UNCERTAINTIES*, The 14th International ESAFORM Conference on Material Forming AIP Conf. Proc. 1353, 35-40 (2011); DOI: 10.1063/1.3589488

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PROCESSES, Proceedings of the ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis - ESDA2010 -, July 12-14, 2010, Istanbul, Turkey

82. E. Gutiérrez, B.M. Colosimo, Q. Semeraro and L. Onieva, 2009, *DATA REDUCTION IN QUALITY INSPECTION OF GEOMETRIC SHAPES*, 3rd International Conference on Integrity, Reliability & Failure (IRF'2009), Porto-Portugal, July 20-24, 2009

83. B.M. Colosimo and M. Pacella, 2008, *COMPLEX PCA AS AN EXPLORATORY TOOL FOR 3-DIMENSIONAL PROFILES*, Annual ENBIS (European Network for Business and Industrial Statistics) Conference Athens, 21-25 September, 2008

84. L. Catellani, B.M. Colosimo and Q. Semeraro, 2007, *DETECTING OUTLYING SAMPLES IN CUSTOMERS' SATISFACTION SURVEYS ANALYSIS: THE EFFECT OF SCALING THE ORDINAL DATA*, 4th International Working Conference TQM - Advances and Intelligent Approaches – sponsored by CIRP, Belgrade, Serbia & Montenegro, 27-30 May 2007

85. B.M. Colosimo, *QUALITY CONTROL OF GEOMETRIC FEATURES IN DISCRETE PART MANUFACTURING*, 2007, S.Co. 2007 – Complex Models and Computation Intensive Methods for Estimation and Prediction, Venice, September 6-8, 2007

86. B.M. Colosimo, E. Gutierrez Moya, G. Moroni and S. Petrò, 2007, *MEASURING STRATEGY DEFINITION FOR FLATNESS: A CASE STUDY,* 10TH CIRP International Seminar on Computer Aided Tolerancing (CAT 2007), Erlangen, Germany, March 21-23 2007.

87. B.M. Colosimo, A.N. Intieri and M. Pacella, 2006, *IDENTIFICATION OF MANUFACTURING PROCESSES SIGNATURE BY A PRINCIPAL COMPONENT BASED APPROACH*. 5th CIRP International Seminar on Intelligent Computation in Manufacturing Engineering, Ischia, July 25-28, Italy.

88. M. Strano and B.M. Colosimo, 2006, *ORDINAL LOGISTIC REGRESSION ANALYSIS FOR STATISTICAL DETERMINATION OF FORMING LIMIT DIAGRAMS* The 9th International Esaform Conference on Material Forming (ESAFORM 2006) Glasgow, United Kingdom, April 26-28 2006.

89. L. Catellani, B.M. Colosimo, M. Grandini and S. Heinemann, 2006, *A STATISTICAL TOOL FOR THE ANALYSIS OF STUDENT SATISFACTION QUESTIONNAIRES*, 9th Toulon Verona Conference "Quality in services", Paisley - Scotland, 7-8 September 2006.

90. B.M. Colosimo and M. Pacella, 2006, *ON THE USE OF PRINCIPAL COMPONENT ANALYSIS FOR IDENTIFYING AND MONITORING GEOMETRIC PROFILES*, Sixth Annual ENBIS (European Network for Business and Industrial Statistics) Conference Wroclaw, 18–20 September, 2006. (selected as paper to be published on *Quality & Reliability Engineering International* after a peer review, which completely changed the paper).

91. L. Catellani, B.M. Colosimo and Q. Semeraro, 2005, *ANALYSIS AND COMPARISON OF UNIVERSITY RANKING MODELS*, 8th Toulon Verona Conference "Quality in services", Palermo, Italy, 8-9 September 2005.

92. B.M. Colosimo and M. Pacella, 2005, *ON THE IDENTIFICATION OF MANUFACTURING PROCESSES' SIGNATURE*, 18th International Conference on Production Research (ICPR), July 31st -August 4th, 2005, Salerno.

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93. B.M. Colosimo, G. Moroni, S. Petro' and Q. Semeraro, 2004, *MANUFACTURING SIGNATURE OF TURNED CIRCULAR PROFILES,* IFAC Conference on Manufacturing, Modelling, Management and Control Athens, Greece, 21-22 October 2004.

94. Z. Lian, B.M. Colosimo, and E. del Castillo, 2004, *SETUP ERROR ADJUSTMENT OF MULTIPLE LOTS USING A SEQUENTIAL MONTECARLO METHOD,* INFORMS 2004 in Denver, October 24-27, 2004. (preliminary work extended and completed in [40] presented by Z. Lian and selected as finalist of the 2004 QSR Best Student Paper Competition http://qsr.section.informs.org/qsr_activities.htm).

95. B.M. Colosimo, 2003, *ON THE DESIGN OF BAYESIAN CONTROL CHART USING MARKOV DECISION PROCESSES,* 2003 Proceedings of the American Statistical Association, Quality & Productivity Research Conference, IBM T. J. Watson Research Ctr., Yorktown Heights, New York, May 21-23, 2003.

96. 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.

97. 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.

98. 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.

99. B.M. Colosimo, M. Pellizzaro, Q. Semeraro and T.Tolio, 1999, *APPG1: A NEW APPROACH FOR ALTERNATIVE PROCESS PLANS GENERATION,* 32nd CIRP International Seminar on Manufacturing Systems, Leuven, Belgium, May 24-26 1999.

100. 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.

101. 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.

102. 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 talk without proceedings:

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103. B.M. Colosimo M. Grasso, 2016, Spatial Models in Metal Additive Manufacturing Informs, November 2016 – Nashville (invited)

104. B.M. Colosimo M. Grasso, 2016, Quality Monitoring, Control and Improvement in Additive Manufacturing: Challenges and Opportunities   Enbis, September 2016 - Sheffield

105. 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

106. B.M. Colosimo, 2015, Multisensor Data Fusion for Surface Metrology, ISSPM 2015 4° International Symposium on Statistical Process Monitoring, July 7-9, 2015 Padua

107. 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.

108. 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*

109. 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)

110. 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).

111. 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.

112. 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).

113. 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.

114. 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.

115. B.M. Colosimo, M. Pacella and Q. Semeraro, 2006, *QUALITY CONTROL OF GEOMETRIC FEATURES: MONITORING ROUNDNESS PROFILES OBTAINED BY TURNING*. 2006 Joint Research

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Conference on Statistics in Quality, Industry and Technology, Knoxville, TN, June 7-9, 2006.

National referred conferences (peer-reviewed):

116. M. Grasso, B.M. Colosimo, 2015, Statistical Quality Monitoring via sensor data: Opportunities and chellenges, Aitem 2015

117. Aitem 2015 due

118. 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.

119. B.M. Colosimo and M. Pacella, 2007, *CONTROL CHARTS FOR FUNCTIONAL DATA: A COMPARISON STUDY.* VIII Convegno A.I.Te.M., 2007, Montecatini Terme, 10-12 September 2007.

120. B.M. Colosimo and M. Pacella, 2005, *A PROFILE-MONITORING METHOD FOR QUALITY CONTROL OF MANUFACTURED ITEMS.* VII Convegno A.I.Te.M., 2005, Lecce, 7-9 September 2005

121. B.M. Colosimo, M. Monno and Q. Semeraro, 1999, *DESCALING BY PURE WATER JET,* IV Convegno A.I.Te.M., Brescia, 13-15 September 1999.

122. G. Celano, B.M. Colosimo and S. Fichera, 2003, *ON SELECTING ADAPTIVE PARAMETERS IN DYNAMIC $\overline{X}$ CONTROL CHARTS FOR FINITE PRODUCTION RUN,* VI Convegno A.I.Te.M., Gaeta, 8-10 September 2003.

123. 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 Convegno A.I.Te.M., Bari, 18-20 September 2001.

124. 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 .

125. B.M. Colosimo and Q. Semeraro, 1999, *ECONOMIC DESIGN OF A BAYESIAN ADAPTIVE CONTROL CHART FOR NONCONFORMITIES,* IV Convegno A.I.Te.M., Brescia, 13-15 September 1999.

National journals and books:

126. M. Annoni, R. Bini, B.M. Colosimo, A.E. Kutlu and M. Monno, 2008, *CARATTERIZZAZIONE E OTTIMIZZAZIONE DEL PARAMETRI DI TAGLLIO NEL PLASMA AD ALTA DEFINIZIONE,* LAMIERA, pp. 114-121, vol. 10.

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127.   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

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