



Prof. Gabriele Arcidiacono

**Full Professor of Machine Design and Head of Department of Innovation and Information Engineering (DIIE) at G. Marconi University (Rome, Italy).**

Chairman of Interuniversity Research Center “StEering” (Statistics for Engineering) promoted by University of Florence, Marconi University, and University of Cassino and Southern Lazio.

Board Member of Machine Design Italian Scientific Society (ANVUR recognized).

M.Sc. in Mechanical Engineering (1993) at the University of Florence (Italy) and Ph.D. in “Machine Design” (1998).

Visiting Professor (1998) and Guest Researcher (2000) at Massachusetts Institute of Technology (MIT), Boston, USA.

Official teachings and research assignments abroad (MIT Boston-USA, Wayne State University Detroit-USA, Kiev National University, University of Business and Technology (UBT) in Jeddah-Saudi Arabia).

He implemented the first Six Sigma program in Italy (General Electric, 1996) and thereafter he has been leading this program in over 300 companies (such as Toyota, FCA, Ferrari, Nestlè, BASF, Johnson&Johnson, Santander, Unicredit, Honda Motor, Piaggio, Pfizer, MSD, Roche, Abbott, Electrolux, Technogym, Leroy Merlin, Poste Italiane), in Europe, USA, South America, Middle East, and Asia.

Invited to disseminate the evolution of the Lean Six Sigma methodology, he has given speeches on all six continents.

Member of Editorial Advisory Board of *International Journal of Lean Six Sigma*.

Member of Editorial Advisory Board of *International Journal on Advanced Science, Engineering and Information Technology*.

Member of Editorial Board of “Design Engineering and Science”, Nam P. Suh et al., (Springer), in press.

Guest Editor of the Special Issue on “Mechanical Characterization of Parts Fabricated by Additive Manufacturing”, 2020, *Part C: Journal of Mechanical Engineering Science (SAGE)*.

Guest Editor of the Special Issue on “Automotive Reliability”, Volume 20 (2) 2004, *Quality and Reliability Engineering International (John Wiley & Sons)*.

Research topics: Lean Six Sigma, Lean Six Sigma 4.0, Design for Six Sigma, Axiomatic Design, Design of Experiments.

Author of 140+ scientific papers and 12 books, including *Lean Six Sigma: Kaizen Leader and Green Belt Handbook* (coauthor Kai Yang) the most widely used book in Italy by industry experts (15,000 copies sold) and *Lean Six Sigma in Healthcare system* (coauthor Daniel T. Jones), presented in presence of the Italian Health Minister.

**Books**

1. Arcidiacono G, 2019, L'integrazione Process&Human Excellence come valorizzare le risorse umane e gli ambienti di lavoro, Edizione Piaggio Group

2. Citti P, Arcidiacono G, Campatelli G, 2019, *Fondamenti di Affidabilità*, Eliograf.
3. Arcidiacono G, 2016, *Governare le imprese con il Lean Six Sigma: l'Eccellenza in Piaggio*, Edizione Piaggio Group
4. Arcidiacono G, Calabrese C, Yang K, 2013, *Lean Six Sigma: metodologia scientifica applicata per Kaizen Leader e Green Belt*, Springer, ISBN: 978-88-470-5467-7
5. Arcidiacono G, Calabrese C, Yang K, 2012, *Leading processes to lead companies: Lean Six Sigma: Kaizen Leader & Green Belt Handbook*, Springer, ISBN 978-88-470-2492-2
6. Arcidiacono G, Jones DT et al, 2012, *Lean Six Sigma in Sanità: nuovi strumenti per il Governo Clinico*. Il Pensiero Scientifico Editore, ISBN: 978-88-490-0424-3
7. Arcidiacono G, 2009, "I modelli gestionali per garantire l'Innovazione in Azienda", *Il Sole24Ore Master24 Book*, November 2009
8. Arcidiacono G, Martinez G, Cravera A, Tonini C, 2008, "Marketing e Comunicazione: Lanciare nuovi prodotti e servizi", *Il Sole24Ore Master24 Book*, 2008
9. Arcidiacono G, Callegari E, Saita M, 2007, "Gestione e Strategia d'Impresa", *Il Sole24Ore Master24 Book*, February 2007
10. Arcidiacono G, Calabrese C, Rossi S, 2007, *Six Sigma: Manuale per Green Belt*, Springer, ISBN 978-88-470-0699-7
11. Citti P, Arcidiacono G, Campatelli G, 2003, *Fondamenti di Affidabilità*, McGraw-Hill, ISBN: 978-88-386-6098-6
12. Arcidiacono G, Citti P, Mazzeranghi A, Spinelli L, 1999, *Guida alla sicurezza delle macchine: DPR 459/96 Direttiva Macchine*, Nuovo Studio Tecna

#### **Recent publications (2015-2020)**

1. Girgenti A, Giorgetti A, Rolli F, Arcidiacono G, Sgrevi A, Citti P, 2020, "The Importance Of Metrics For The Evaluation Of Design Performance For An Axiomatic Design System Development", *International Journal Of Scientific & Technology Research*, Volume 9, Issue 03, pp. 4793- 4798
2. Nikiforova ND, Berni R, Arcidiacono G, Cantone L, Placidoli P, 2020, "Latin hypercube designs based on strong orthogonal arrays and Kriging modelling to improve the payload distribution of trains", *Journal of Applied Statistics*, /doi.org/10.1080/02664763.2020.1733943
3. Ceccanti F, Giorgetti A, Cavallini C, Arcidiacono G, Citti P, 2020, "Comparative Evaluation of Fuzzy Axiomatic Design and IAMS Comprehensive VIKOR Approaches for Material Selection in Mechanical Design", *International Journal of Engineering Research and Technology*, Volume 13, Number 1, pp. 80-87
4. Cantone L, Arcidiacono G, 2019, "Numerical model for distributors of railway vehicles equipped with composite blocks", *AIAS 2019 International Conference on Stress Analysis*
5. Giorgetti A, Ceccanti F, Citti P, Ciappi A, Arcidiacono G, 2019, "Axiomatic Design of Test Artifact for Laser Powder Bed Fusion Machine Capability Assessment", *Proceedings of 13th International Conference on Axiomatic Design, Sydney (Australia)*
6. Arcidiacono G, Berni R, Cantone L, Nikiforova ND, Placidoli P, 2018, "A Kriging modeling approach applied to the railways case", *Procedia Structural Integrity* 8, pp. 163-167
7. Arcidiacono G, Placidoli P, 2018, "Material model calibration and validation for laminated composites using kriging surrogate models", *International Journal of Mechanical Engineering and Technology*, Vol. 9, Issue 3, pp. 1107-1121
8. Arcidiacono G, Pieroni A, 2018, "The Revolution Lean Six Sigma 4.0", *International Journal on Advanced Science, Engineering and Information Technology*, Vol. 8, Issue 1, pp. 141-149, DOI:10.18517/ijaseit.8.1.4593

9. Arcidiacono G, Berni R, Bonora N, Catelani M, Pierini M, 2018, "Interuniversity Research Center StEering - Statistics for Engineering: Design, Quality and Reliability", *Procedia Structural Integrity* 8, pp. 168-173
10. Giorgetti A, Arcidiacono G, Ciappi A, Barbieri R, Citti P, 2018, "HNCR model following robust approach", *Quality and Reliability Engineering International Journal*, Vol. 34, Issue 6, pp. 1271-1288, doi: 10.1002/qre.2324
11. Cantone L, Arcidiacono G, 2018, "A study on releasing manoeuvre to improve freight safety and efficiency", *International Journal of Mechanical Engineering and Technology*, Vol. 9, Issue 3, pp. 899-909
12. Arcidiacono G, Berni R, Cantone L, Nikiforova ND, Placidoli P, 2018, "Fast Method to Evaluate Payload Effect on In-Train Forces of Freight Trains", *The Open Transportation Journal*, 2018, 12, pp. 77-87, DOI: 10.2174/1874447801812010077
13. Arcidiacono G, Innocenti B, Macrì A, Giorgetti A, 2018, "Design of a Measurement System fo the Estimation of the Knee Kinematics", *International Journal of Mechanical Engineering and Technology*, Vol. 9, Issue 2, pp. 866–875
14. Giusti E, Giorgetti A, Girgenti A, Arcidiacono G, Checcacci D, Schiavi W, 2018, "New Empirical Design Practice to Evaluate the Sealing Capability of Split Flange for Steam Turbine", *International Journal of Mechanical Engineering and Technology*, Vol. 9, Issue 2, pp. 839–850
15. Arcidiacono G, Placidoli P, Cantone L, 2018, "Automatic Identification of Tuning Parameters of Brake Pipe Pneumatic Model", *International Journal of Mechanical Engineering and Technology*, Vol. 9, Issue 2, pp. 829-838
16. Arcidiacono G, Cantone L, 2018, "A Model of Control Valve for Wagons Equipped by k-Blocks", *International Journal on Advanced Science, Engineering and Information Technology*, [Vol. 8, Issue 1](#), pp. 285-290, [DOI:10.18517/ijaseit.8.1.4974](https://doi.org/10.18517/ijaseit.8.1.4974)
17. Matt DT, Arcidiacono G, Rauch E, 2018, "Applying Lean to Healthcare Delivery Processes - a Case-based Research", *International Journal on Advanced Science, Engineering and Information Technology*, [Vol. 8 Issue 1](#), pp. 123-133, [DOI:10.18517/ijaseit.8.1.4965](https://doi.org/10.18517/ijaseit.8.1.4965)
18. Cantone L, Arcidiacono G, Placidoli P, 2018, "Autonomous Determination of Pneumatic Parameters of Traindy", *International Journal of Mechanical Engineering and Technology*, Vol. 9, Issue 9, pp. 1507–1515
19. Rolli F, Fradinho J, Giorgetti A, Citti P, Arcidiacono G, 2018, "Axiomatic decomposition of a zero-sum game: the penalty shoot-out case", *Proceedings of 12th International Conference on Axiomatic Design, Reykjavik (Islanda)*
20. Arcidiacono G, Nuzzi S, 2017, "A Review of the Fundamentals on Process Capability, Process Performance, and Process Sigma, and an Introduction to Process Sigma Split", *International Journal of Applied Engineering Research*, vol. 12, Issue 14, pp. 4556-4570
21. Arcidiacono G, Berni R, Cantone L, Placidoli P, 2017, "Kriging models for payload-distribution optimization of freight trains", *International Journal of Production Research*, Vol. 55, Issue 17, pp. 4878-4890, doi: 10.1080/00207543.2016.1268275
22. Arcidiacono G, Martini I, De Luca EW, 2017, "Lean Six Sigma roadmap for Quality Assurance of Biomedical Ontologies", *International Journal of Applied Engineering Research*, vol. 12, Issue 21, pp. 10739-10746
23. Giorgetti A, Cavallini C, Arcidiacono G, Citti P, 2017, "A mixed C-Vikor fuzzy approach for material selection during design phase: A case study in valve seats for high performance engine", *International Journal of Applied Engineering Research*, vol. 12, Issue 12, pp. 3117-3129
24. Giorgetti A, Cavallini C, Ciappi A, Arcidiacono G, Citti P, 2017, "A holistic model for the proactive reduction of non-conformities within new industrial technologies", *International Journal of Mechanical Engineering and Robotics Research*, vol. 6, Issue 4, pp. 313-317, DOI: 10.18178/ijmerr.6.4.313-317

25. Arcidiacono G, Matt DT, Rauch E, 2017, "Axiomatic Design of a Framework for the Comprehensive Optimization of Patient Flows in Hospitals", *Journal of Healthcare Engineering*, Vol. 2017, Article ID 2309265, 9 pp. doi: 10.1155/2017/2309265
26. Arcidiacono G, Molon M, Nuzzi S, Placidoli P, 2017, "Improving Reliability of a fire-fighting pump set with Axiomatic Design", *Proceedings of 11th International Conference on Axiomatic Design, Iasi (Romania). MATEC Web of Conferences*, Vol. 127, article id. 01014
27. Pacifici B, Parretti C, Girgenti A, Giorgetti A, Arcidiacono G, 2017, "Conceptual framework for user based RPM", *Proceedings of the International Conference on Industrial Engineering and Operations Management - IEOM 2017, Morocco*, pp. 2041-2047
28. Arcidiacono G, Giorgetti A, Ciappi A, 2017, "An Axiomatic Design framework for reliability improvement", *ACM International Conference Proceeding Series*, pp. 214-217, DOI: 10.1145/3056662.3056707
29. Arcidiacono G, Costantino N, Yang, K, 2016, "The AMSE Lean Six Sigma Governance Model", *International Journal of Lean Six Sigma*, Vol. 7, Issue 3, pp. 233-266, doi: 10.1108/IJLSS-06-2015-0026
30. Arcidiacono G, Brown C, Bucciarelli L, Melosi F, 2016, "Axiomatic Design of Production Systems for Performance Improvement: A Project Identification and Prioritization Model", Cap. 10 del volume "Axiomatic Design in Large Systems", Springer Editore, ISBN 978-3-319-32387-9, pp. 251-272
31. Arcidiacono G, Bucciarelli L, 2016, "TRIZ: Engineering Methodologies to Improve the Process Reliability", *Quality and Reliability Engineering International Journal*, Vol. 32, Issue 7, pp. 2537-2547, doi: 10.1002/qre.1955
32. Arcidiacono G, Martini I, De Luca EW, 2016, "Sharing knowledge Engineering for Digital Humanities", *CEUR Workshop Proceedings*. Vol. 1764
33. Arcidiacono G, De Luca EW, Fallucchi F, Pieroni A, 2016, "The use of Lean Six Sigma methodology in Digital Curation", *CEUR Workshop Proceedings*, Vol.1764
34. Arcidiacono G, Yang K, Trewn J, Bucciarelli L, 2016, "Application of Axiomatic Design for Project-Based Learning Methodology", *Proceedings of 10th International Conference on Axiomatic Design, Xian (China). Procedia CIRP*, Vol. 53, pp. 166-172, DOI: 10.1016/j.procir.2016.08.003
35. Arcidiacono G, Wang J, Yang, K, 2015, "Operating room adjusted utilization study", *International Journal of Lean Six Sigma*, Vol. 6, Issue 2; pp.111 – 137, doi: 10.1108/IJLSS-02-2014-0005
36. Arcidiacono G, Placidoli P, 2015, "Reality and illusion in Virtual Studios: Axiomatic Design applied to television recording", *Proceedings of 9th International Conference on Axiomatic Design, Firenze (Italy). Procedia CIRP*, Volume 34, 2015, Pages 137-142
37. Arcidiacono G, Giorgetti A, Pugliese M, 2015, "Axiomatic Design to improve PRM airport assistance", *Proceedings of 9th International Conference on Axiomatic Design, Firenze (Italy). Procedia CIRP*, Volume 34, 2015, Pages 106-111
38. Arcidiacono G, 2015, "Unimarconi, un'università aperta e propositiva", *Specchio Economico*, (12), pp.42-43

### **Main activities and experiences in the Lean Six Sigma field**

- 2016 onwards: Scientific Coordinator for Lean Six Sigma programs for Leonardo Helicopters in Italy (Cascina Costa, Vergiate, Benevento, Brindisi), Poland (Swidnik), and UK (Yeovil).
- 2014 onwards: Scientific Coordinator for Lean Six Sigma programs for Piaggio Group (Piaggio, Aprilia, Moto Guzzi) in Italy (Pontedera, Scorzè, Mandello) and India (Baramati).
- 2015 onwards: Scientific Coordinator for Lean Six Sigma programs for Poste Italiane (the Italian postal service provider).
- 2016 onwards: Scientific Coordinator for Lean Six Sigma programs for Santander Consumer Bank.

- March 2017-March 2018: Scientific Coordinator for the project “GSN (Global Sales Network) Transformation” for Technogym in Italy, France, UK, Benelux, Iberia, Emirates, North America, China, Hong Kong.
- February 2013-July 2014: Scientific Coordinator for the national program “Lean Six Sigma in Healthcare” (Azienda Sanitaria Universitaria Integrata of Trieste, Ospedale Monaldi Napoli, Azienda Ospedaliera Castellamare – Napoli, Ospedale C. Urbani Jesi (AN), Ospedale Careggi of Firenze, Ospedale Piove di Sacco - Padova, Ospedale Sant’Antonio - Padova, Ospedale della Versilia – Viareggio (LU), Presidio Territoriale Bari – Conversano, Farmacia Vittorio Veneto (TR), AUSL 8 – Arezzo, AUSL 16 – Padova, Azienda Ospedaliera Universitaria Santa Maria della Misericordia (Udine), Rete Ematologica Pugliese, Poliambulanza Istituto Ospedaliero of Brescia, ASL of Torino).
- January 2010 – June 2011: Scientific Coordinator for the whole program “Lean Six Sigma & Energetic Efficiency”, organized by Federchimica/Confindustria and supported by Fondimpresa, for over 30 companies such as Abbott, Biolchim, Bonfiglioli, Casalgrande Padana, Catalent, Ciba, Comecer, Colomer Italia, Colorobbia, CSO, Endura, Evonik, Flint Group, Gruppo Concorde, IDA Pharma, IMPA, Kmg Chemicals , Hospitex Diagnostics, Ludovico Martelli, Mirage Ceramico, Novaol, Nuova Solmine, Orion, Saponeria Fissi, Puccioni, Solvay Bario Derivati, Solvay Chimica Italia.
- September 2008: Scientific Coordinator for Confindustria in Japan (Tokyo, Nagoya e Osaka) at Toyota, Toshiba, Denso and Yamada, and at local universities on Lean Manufacturing and Lean Design.
- September 2007: Scientific Coordinator for Confindustria (Boston e Detroit) at IBM, Delphi, Henry Ford Hospital, and at local universities (MIT di Boston, Boston College, Wayne State University) on Six Sigma and Design for Six Sigma.
- July 2005-June 2006: Scientific Coordinator for a Lean Six Sigma project in Ferrari.
- 2004: Scientific Coordinator for a Lean Six Sigma project in Fiat Auto (now FCA).
- 1996-1998: Lean Six Sigma Teacher and Consultant for Nuovo Pignone in the HeadQuarter of Florence and in the other premises on behalf of General Electric (GE). That program was the first-ever program run in Italy.
- Chairman of numerous Scientific Committees in Italy and around the world for Green Belt and Black Belt Certifications. A few examples:
  - August 2019 and September: Swidnik (POLAND) for PZL- Swidnik (LEONARDO HELICOPTERS Group)
  - March 2018 and July 2018: Baramati (INDIA) for PVPL (PIAGGIO Group)
  - May 2018 e September 2015: Green Bay (USA) for Fabio Perini (KORBER Group)
  - January 2015 and November 2012: Joinville (Brazil) for Fabio Perini (KORBER Group)
  - February 2008: Sao Paulo (Brazil) for Efeso (Solving Group)
  - September 2006: Atlanta (USA) for Efeso (Solving Group)

### International Scientific Committees

- ORGANIZING COMMITTEE of international conferences:
  - ICAD15 – 9th International Conference of Axiomatic Design, Florence, ITALY 2015
  - LEANPROVE FORUM, Florence 2014
  - ICAD06 – 4th International Conference of Axiomatic Design, Florence, ITALY 2006
- Chairman and speaker for many international conferences.  
SCIENTIFIC COMMITTEE for:
  - STATISTICS AND INNOVATION FOR INDUSTRY 4.0, Beijing Institute of Technology, Renmin University of China, University of Florence, ITALY 2020
  - M2D 2019 - 8th International Conference Mechanics and Materials in Design, Bologna, ITALY 2019

- ICAD19 – 13th International Conference of Axiomatic Design, Sydney, AUSTRALIA 2019
- ICAD18 – 12th International Conference of Axiomatic Design, Reykjavík, ICELAND 2018
- ICAD17 – 11th International Conference of Axiomatic Design, Iasi, ROMANIA 2017
- ICAD16 – 10th International Conference of Axiomatic Design, Xian, CHINA 2016
- ICAD15 – 9th International Conference of Axiomatic Design, Florence, ITALY 2015
- ICAD14 – 8th International Conference of Axiomatic Design, Lisbon, PORTUGAL 2014
- ICAD13 – 7th International Conference of Axiomatic Design, Worcester, USA 2013
- ICAD11 – 6th International Conference of Axiomatic Design, Daejeon, JAPAN 2011
- ICAD09 – 5th International Conference of Axiomatic Design, Lisbon, PORTUGAL 2009
- ICAD06 – 4th International Conference of Axiomatic Design, Florence, ITALY 2006
- ICAD04 – 3rd International Conference of Axiomatic Design, Seoul, KOREA 2004
- ICED03 – International Conference on Engineering Design, Stockholm, SWEDEN 2003
- DESIGN 2010 - 11th International Design Conference, Dubrovnik, CROATIA
- DESIGN 2008 - 10th International Design Conference, Dubrovnik, CROATIA
- DESIGN 2006 - 9th International Design Conference, Dubrovnik, CROATIA
- DESIGN 2004 - 8th International Design Conference, Dubrovnik, CROATIA
- AIAS 2018 – 47th Conference, Reggio Calabria, ITALY
- AIAS 2017 – 46th Conference, Pisa, ITALY
- AIAS 2016 – 45th Conference, Trieste, ITALY
- AIAS 2015 – 44th Conference, Messina, ITALY
- AIAS 2014 – 43rd Conference, Rimini, ITALY

Rome, November 2020