

Curriculum Vitae
TONIO DI BATTISTA

Current position Full Professor of Statistics SECS-S/01 at the University of Studies "G. d'Annunzio", Department of Philosophical, Pedagogical, and Economic-Quantitative Sciences.

Place and date of birth Castiglione a Casauria (PE), 8/4/1957.

Education Bachelor's Degree in Statistics and Demographic Science at the Faculty of Statistics, in "La Sapienza" University of Rome in the academic year 1981/82.

Professional certifications Professional Qualification in Statistical Disciplines obtained at "La Sapienza" University of Rome; November 1985.

Academic roles

August 1991 University researcher, disciplinary group SECS-S/01 at the Faculty of Economics of the University "G. d'Annunzio" of Chieti, Pescara campus. Confirmed in the role of university researchers starting from August 1994.

November 1998 Associate Professor of Statistics at the Faculty of Economics of the "G. d'Annunzio" of Chieti, headquarters of Pescara. From June 2002 to November 2004 he was Associate Professor of Statistics at the Faculty of Management Sciences of the "G. d'Annunzio" of Chieti, headquarters of Pescara.

December 2004 Full Professor of Statistics, at the Faculty of Educational Sciences of the "G. d'Annunzio" of Chieti-Pescara.

Academic positions

Year 1992 Elected representative of researchers in the Integrated Academic Senate of the "G. d'Annunzio" of Chieti-Pescara.

Year 1993 Member elected by the Faculty on the Board of Directors of the C.I.B.C.E. (Centre for Bibliographic Computerization and Electronic Calculation) of the "G. d'Annunzio" of Chieti-Pescara.

Years 2006-09 Member of the Board of Directors of the "G. d'Annunzio" of Chieti-Pescara.

<i>April 2006</i>	President of the degree course in education and training sciences of the “G. d'Annunzio” of Chieti-Pescara.
<i>March 2007</i>	Director of the CERVAS research center (Research Center for Evaluation and Development).
<i>Years 2009-12</i>	Coordinator of the PhD in “Economics and Statistics” of the “G. d'Annunzio” of Chieti-Pescara.
<i>Years 2012-15</i>	Member of the Evaluation Team of the "G. d'Annunzio" University of Chieti-Pescara.
<i>Years 2016-20</i>	Member of the Board of Directors of the “G.d'Annunzio” University of Chieti-Pescara.
<i>Years 2020-23</i>	Director of the Department of Philosophical, Pedagogical and Economic-Quantitative Sciences of the “G. d'Annunzio” of Chieti-Pescara.
<i>Years 2020-23</i>	Member of the Academic Senate of the “G. d'Annunzio” of Chieti-Pescara.
<i>November 2023</i>	pro-rector in the Pescara branch of the "G. d'Annunzio" University

Roles held in non-academic structures

<i>Years 2001-06</i>	Elected member of the Board of Directors of the Right to University Studies Company of Chieti-Pescara (ADSU).
<i>Years 2010-14</i>	Elected member of the board of directors of the Italian Statistical Society.
<i>Years 2016-19</i>	President of the Right to University Studies Company of Chieti-Pescara (ADSU).

Member of Scientific Societies

Italian Statistical Society (SIS)
Classification and Data Analysis Group Of the Italian Statistical Society (CLADAG)
The International Environmetrics Society (TIES)
SIS Permanent Working Group “Methodologies for Sample Surveys” (S2G)
SIS Permanent Working Group “Statistics for Evaluation and Quality in Services” (SVQS)
GRASPA permanent group
Italian Society of Applied Statistics (ASA)

Editorial Board

Journal of Mathematics and Statistics New York
Electronic Journal of Applied Statistical Analysis: (EJASA)
Global & Local Economic Review
Italian journal of applied statistics
Associate Editor *Springer Journal* Statistical methods & application (SM&A)

Ratio Mathematica

Editor for the Springer Book "Topics on methodological and applied statistical inference"

Competitive tenders

- Years 2017-20* Local PRIN coordinator “Complex space-time modeling and functional analysis for probabilistic forecast of seismic events”
- Year 2009* Local PRIN coordinator “Statistical analysis for shape, image and functional data in a multidisciplinary setting”
- Year 2018* Research Project Manager "Functional analysis and classification methods for big data and data streams"
- Year 2017* Research Project Manager "Cluster analysis using mixed models"
- Years 2016-18* Research Project Manager "Drawing samples for the evaluation of customer satisfaction"
- Years 2006-08* Local PRIN coordinator “Sample designs and estimators for Customer Satisfaction Indices”
- Year 2000* Local PRIN coordinator “New classification methodologies for data mining and analysis of symbolic data”
- Year 1999* Local PRIN coordinator “State Space models for the representation of space-time processes”

National Scientific Qualification

- Years 2021-23* Commissioner of National Scientific Qualification (ASN) scientific disciplinary sector 13/D1

Awards and recognitions

- Year 2010* Research Award University of Tor Vergata-Rome (IT)

Visiting Professor

- Year 2010* Visiting Professor University of Liverpool (UK)

Teaching activity

In the academic years from 2013/2014 to date he held the course "Methods and techniques for evaluation" at the Degree course in Educational Sciences, Department of Philosophical, Pedagogical and Economic-Quantitative Sciences

In the academic years from 2013/2014 to date he has been teaching the "Statistical Institutions" course for the Economics, Markets and Development degree course of the Department of Philosophical, Pedagogical and Economic-Quantitative Sciences

In the academic years from 2013/2014 to 2016/17 he held the "Geostatistics" course for the master's degree course Management and socio-economic development of the Department of Philosophical, Pedagogical and Economic-Quantitative Sciences

In the 2019/2020 academic year he held the "Marketing, statistics and metrics" course for the Digital Marketing master's degree course of the Department of Business Economics

Publications

Scopus personal page: <https://www.scopus.com/authid/detail.uri?authorId=6507326490>

Google Scholar personal page: <https://scholar.google.it/citations?user=fKPgsfkAAAAJ&hl=en>

Articles published in the most significant and recent journals

Di Battista T., Sarra A., Nissi E., Evangelista A. (2023) "A functional approach for constructing dynamic Composite Indicators" *STATISTICAL METHODS & APPLICATIONS, ONLINE FIRST*, <https://doi.org/10.1007/s10260-023-00728-8>

Di Battista T., Sarra A., Evangelista A., Iannone B. (2023) "Looking for patterns of change amid pandemic period in students' evaluation of academic teaching" *QUALITY AND QUANTITY*, 57 (5), pp. 4759-4777.

Di Battista T., Gattone, S.A., Fortuna, F., Evangelista, A. (2022) "Simultaneous confidence bands for the functional mean of convex curves" *ECONOMETRICS AND STATISTICS*, 24, 183-193.

Di Battista T., Maturo F., Fortuna F. (2022) "Outliers detection in assessment tests' quality evaluation through the blended use of functional data analysis and item response theory" *ANNALS OF OPERATIONS RESEARCH*, pp. 1-16.

Di Battista T., Acal C., Aguilera A. M., Sarra A., Evangelista A. (2022) "Functional ANOVA approaches for detecting changes in air pollution during the COVID-19 pandemic" *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*, 36 (4), 1083-1101.

Di Battista T., *et.al.* (2021) "Picture of the favourable immune profile induced by anti-sars-cov-2 vaccination" *BIOMEDICINES*, 9(8), 1035.

Di Battista T., Aguilera, A.M., Fortuna, F., Escabias, M. (2021) "Assessing Social Interest in Burnout Using Google Trends Data" *SOCIAL INDICATORS RESEARCH*, 156(2-3), 587–599.

Di Battista T., Dutillo, P., Gattone, S.A. (2021) “Volatility modeling: An overview of equity markets in the euro area during covid-19 pandemic” *MATHEMATICS*, 9(11), 1212.

Di Battista T., Caruso, G., Gattone, S.A., Fortuna, F. (2021) “Cluster Analysis for mixed data: An application to credit risk evaluation” *SOCIO-ECONOMIC PLANNING SCIENCES*, 73, 100850.

Di Battista T., Fortuna F., Gattone S. A. (2020) “Functional estimation fo diversity profiles”, *ENVIRONMETRICS*.

Di Battista T., Caruso G., Gattone S. A., Fortuna F. (2020) “Cluster Analysis for mixed data: An application to credit risk evaluation” *SOCIO-ECONOMIC PLANNING SCIENCES*, 100850.

Di Battista T., Fortuna F. (2020) “Functional unsupervised classification of spatial biodiversity” *ECOLOGICAL INDICATORS*, 111, 106027 .

Di Battista T., Caruso G., Gattone S. A. (2020) “A Micro-level Analysis of Regional Economic Activity Through a PCA Approach ” *ADAVNCES IN INTELLIGENT SYSTEMS AND COMPUTING*, 1009.

Di Battista T., Maturo F., Ferguson J., Ventre V. (2019) “A fuzzy functional k-means approach for monitoring Italian regions according to health evolution over time” *SOFT COMPUTING*, (<https://doi.org/10.1007/s00500-019-04505-2>).

Di Battista T., Maturo F., Balzanella A. (2019) “Building Statistical Indicators of Equitable and Sustainable Well Being in a Functional Framework” *SOCIAL INDICATORS RESEARCH*, 146, 449–471 (<https://doi.org/10.1007/s11205-019-02137-5>).

Di Battista T., Fortuna F., Maturo F. (2019) “Testing Equality of Functions Across Multiple Experimental Conditions for Different Ability Levels in the IRT Context: The Case of the IPRASE TLT 2016 Survey” *SOCIAL INDICATOR RESEARCH*, 146,19–39 (<https://doi.org/10.1007/s11205-018-1893-4>).

Di Battista T., Aguilera A.M., Escabias M., Fortuna F. (2019) “Assessing Social Interest in Burnout Using Google Trends Data” *SOCIAL INDICATORS RESEARCH*, (<https://doi.org/10.1007/s11205-019-02250>).

Di Battista T., Caruso G., Gattone S. A., Balzanella A. (2019) “Cluster analysis: an application to a real mixed-type data set ” *STUDIES IN SYSTEMS, DECISION AND CONTROL*, 179, pp. 525-533

Di Battista T., Fortuna F., Maturo F. (2018) “Clustering functional data streams: Unsupervised classification of soccer top players based on Google trends” *QUALITY AND RELIABILITY ENGINEERING INTERNATIONAL*, (<https://doi.org/10.1002/qre.2333>).

Di Battista T., Maturo F.(2018) “A functional approach to Hill's numbers for assessing changes in species variety of ecological communities over time” *ECOLOGICAL INDICATORS*, 84, 70–81.

Di Battista T., Gattone S. A., Giordani P., Fortuna F. (2018) “Adaptive cluster double sampling with post stratification with application to an epiphytic lichen community” *ENVIRONMENTAL AND ECOLOGICAL STATISTICS*, 25,125–138.

Di Battista T., Fortuna F. (2017) “Functional confidence bands for lichen biodiversity profiles: A case study in Tuscany region (central Italy)” *STATISTICAL ANALYSIS AND DATA MINING*, 10(1),21–28.

Di Battista T., Fortuna F., Maturo F. (2017) “BioFTF: An R package for biodiversity assessment with the functional data analysis approach” *ECOLOGICAL INDICATORS*, 73, 726–732.

Di Battista T., Fortuna F., Maturo F. (2016) “Parametric Functional Analysis of Variance for Fish Biodiversity Assessment” *JOURNAL OF ENVIRONMENTAL INFORMATICS*, 28(2), 101-109.

Di Battista T., Fortuna F. (2016) “Clustering dichotomously scored items through functional data analysis” *ELECTRONIC JOURNAL OF APPLIED STATISTICAL ANALYSIS*, (e-ISSN: 2070-5948, DOI: 10.1285/i20705948v9n2p433).

Di Battista T., Gattone S. A., Mohamed E. (2016) “Adaptive cluster sampling with clusters selected without replacement and stopping rule” *ENVIRONMENTAL AND ECOLOGICAL STATISTICS*, 23, 453–468.

Di Battista T., Fortuna F. Maturo F. (2015) “Parametric functional analysis of variance for fish biodiversity assessment” *JOURNAL OF ENVIRONMENTAL INFORMATICS*, (ISSN:1726-2135).

Di Battista T., Fortuna F.a, Maturo F. (2015) “Environmental monitoring through functional biodiversity tools”, *ECOLOGICAL INDICATORS*, 60, 237–247

Di Battista T., Ceccatelli C., Fortuna F., Maturo F. (2014). Best practice to improve the learning of statistics: the case of the National Olympics of Statistics in Italy. *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, (ISSN:1877-0428) p. 2194 - 2199 Vol. XCIII.

Di Battista, T., Ceccatelli C., Fortuna, F., Maturo F. (2013). L'Item Response Theory come strumento di valutazione delle eccellenze nella scuola. *SCIENCE & PHILOSOPHY*, (ISSN:2282-7765) p. 143 - 156 Vol. I.

Di Battista T., Fortuna F. (2013). Assessing Biodiversity Profile Through Fda. *STATISTICA*, (ISSN:1973-2201) p. 69 - 85 Vol. I.

Di Battista T., Ceccatelli C., Fortuna F., Maturo F. (2013). L' Item Response Theory come strumento di valutazione delle eccellenze nella scuola. *SCIENCE & PHILOSOPHY*, (ISSN:2282-7765) p. 143 - 156 Vol. 1.

Di Battista T., Mignani S., Ceccatelli C. (2013). Motivazione, Apprendimento e valutazione nella Scuola Secondaria Di II Grado: Il Caso Delle Olimpiadi Nazionali Di Statistica. *INDUZIONI*, (ISSN:1120-690X) p. 31 - 63 Vol. 45.

Di Battista T., De Sanctis A. (2012). Functional Analysis for Parametric Families of Functional Data. *INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS IN APPLIED SCIENCES AND ENGINEERING*, (ISSN:0218-1274) p. 211 – 218.

Di Battista T., Valentini P., Gattone S. A. (2011). Heterogeneity Measures in the Customer Satisfaction Analysis. *JOURNAL OF CLASSIFICATION*, (ISSN: 0176-4268) p. 38 - 52 Vol. 28-1.

Di Battista T., Gattone S. A. (2011). Adaptive cluster sampling with a data driven stopping rule. *STATISTICAL METHODS & APPLICATIONS*, (ISSN:1618-2510) p. 1 - 21 Vol. XX.

Di Battista T., Cristiana C., Raffaella M., Armando T. (2010). Lisrel model for a confirmatory analysis: relationship between low self-worth level and victim of bullying. *PROCEDIA: SOCIAL & BEHAVIORAL SCIENCES*, (ISSN:1877-0428) p. 1612 - 1616 Vol. Volume 9.

Di Battista T., Di Nisio R. (2010). An Application of the Structural Equation Models to Customer Satisfaction And Loyalty Assessment. *ELECTRONIC JOURNAL OF APPLIED STATISTICAL ANALYSIS: DECISION SUPPORT SYSTEMS AND SERVICES EVALUATION*, (ISSN:2037-3627) p. 42 – 53.

Di Battista T., Gattone S. A. (2009). A functional approach to diversity profiles. *JOURNAL OF THE ROYAL STATISTICAL SOCIETY SERIES C-APPLIED STATISTICS*, (ISSN:0035- 9254) p. 267 - 284 Vol. LVIII.

Di Battista T.., Sclocco T. (2009). Sampling design for local public transport assessment. *GLOBAL & LOCAL ECONOMIC REVIEW*, (ISSN:1722-4241) p. 43 - 53 Vol. 13.

Di Battista T.., Valentini P. (2007). Complex sampling designs for customer satisfaction index estimation. *STATISTICA*, (ISSN:0390-590X) p. 293 - 308 Vol. 67.

Di Battista T.., Sclocco T., Gattone S.A., Coli M. (2007). Functional clustering of random curves. *ENVIRONMENTAL INFORMATICS ARCHIVES*, (ISSN:1811-0231) p. 612 - 620 Vol. 5.

T. Di Battista, Visini G. (2006). The Environmental Long-Memory Space-Time Series Prediction.. *JOURNAL OF ENVIRONMENTAL INFORMATICS*, (ISSN:1726-2135) p. 48 – 55.

Di Battista T.., Gattone s. A., Granturco M. (2005). VAR-models for Predicting Biodiversity. *JOURNAL OF MATHEMATICS AND STATISTICS*, (ISSN:1549-3644) p. 313 - 316 Vol. 4.

Di Battista T.., Gattone S. A. (2004). Multivariate Bootstrap Confidence Regions for Abundance Vector using Data Depth. *ENVIRONMENTAL AND ECOLOGICAL STATISTICS*, (ISSN:1352-8505) p. 355 - 365 Vol. 11.

Di Battista T.., Gattone S. A. (2004). Simultaneous Inference on Diversity of Biological Communities. *STATISTICAL METHODS & APPLICATIONS*, (ISSN:1618-2510) p. 131 - 138 Vol. 13.

Di Battista T.. (2003). Resampling methods for estimating dispersion indices in random and adaptive design. *ENVIRONMENTAL AND ECOLOGICAL STATISTICS*, (ISSN: 1352-8505) p. 83 - 93 Vol. 10.

Di Battista T.., Gattone S. A., Sarra A. (2003). Detecting the optimal sample size in adaptive sampling design. *ENVIRONMENTAL INFORMATICS, ARCHIVES* (ISSN:1811-0231) p. 131 - 137 Vol. vol 1.

Di Battista T.., Fontanella L., Ippoliti L. (2003). Conditional Simulation in Dynamic Linear Models for Spatial and Temporal Predictions of Diffusive Phenomena. *STATISTICAL METHODS & APPLICATIONS*, (ISSN:1618-2510) p. 361 - 375 Vol. 12/3.

Di Battista T.., Gattone S. A. (2003). Non parametric tests and confidence regions for intrinsic diversity profiles of biological populations. *ENVIRONMETRICS*, (ISSN:1180-4009) p. 733 - 741 Vol. 14.

Di Battista T. (2002). Diversity index estimation by adaptive sampling. *ENVIRONMETRICS*, (ISSN:1180-4009) p. 209 - 214 Vol. 13.

Di Battista T. (2002). Adjusting the bias of adaptive sampling estimators of spatial dispersion indices by delta-method.. *STATISTICAL METHODS & APPLICATIONS*, (ISSN: 1618-2510) p. 153 - 160 Vol. 11-2.

Contributions in more recent volumes-book chapters

Di Battista T., Sarra A., Evangelista A. (2023) “*Students’ feedback on the digital ecosystem: a structural topic modeling approach*”, ASA 2022 Data-Driven Decision Making: Book of short papers

Di Battista T., Sarra A., D’Ingiullo D., Evangelista A., Nissi E., Quaglione D. (2023) “*Investigating the patterns of Italian internal mobility: a network analysis at provincial level*”, Statistical Methods for Evaluation and Quality: Techniques, Technologies and Trends (T3), pp 242-247

Di Battista T., Gattone S. A. (2023) “*Density modelling with functional data analysis*”, 5th International Conference on Advanced Research Methods and Analytics (CARMA2023), pp 87-91

Di Battista T., Fortuna F., Maturo F. (2022) “*Improving the quality of questionnaires via the combined use of functional outlier detection and Item Response Theory*”, IES 2022 Innovation & Society 5.0: Statistical and Economic Methodologies for Quality Assessment

Di Battista T., Evangelista A., Fortuna F, Gattone S.A., (2022) “*Functional Horvitz-Thompson estimator for convex curves*”, 51st Scientific Meeting of the Italian Statistical Society, Book of short papers, pp. 584-589, Pearson, ISBN: 9788891932310

Di Battista T., Evangelista A., Acal C., Aguilera A. M., Sarra A., Palermi S. (2022) “*A new multivariate functional ANOVA approach for assessing air quality data amid COVID-19 pandemic*”, IES2022, Book of short papers, pp. 517-522, PKE Publisher, ISBN: 978-88-94593-35-8 on print, ISBN: 978-88-94593-36-5 online

Di Battista T., Nissi E., Sarra A. (2022) “*Equitable and sustainable well-being over time: a functional approach*”, IES2022, Book of short papers, PKE Publisher, ISBN: 978-88-94593-35-8 on print, ISBN: 978-88-94593-36-5 online

Di Battista T., Sarra A., Evangelista A. (2021) “*Assessment of visitors’ perceptions in protected areas through a model-based clustering*”, Book of short papers of the on-site

conference ASA2021, pp. 245-250, Firenze University Press, ISBN: 978-88-5518-461-8

Di Battista T., Sarra A., Evangelista A., Pieragostino D. (2021) “*Antibodies to SARS-CoV-2: an exploratory analysis carried out through the Bayesian Profile Regression*”, CLADAG2021, Book of abstract and short papers, pp. 412-415, Firenze University Press, ISBN:978-88-5518-340-6

Di Battista T., Sarra A., Evangelista A., Bucci, F. (2021) “*Forecasting air quality by using ANNs*”, SIS2021, Book of short papers, pp 608-613, Pearson, ISBN: 9788891927361

Di Battista T., Valentini P., Fortuna F., Paolo G. (2021) “*A spatial regression model for predicting abundance of lichen functional groups*”, SIS2021, Book of short papers, pp 36-40, Pearson, ISBN: 9788891927361

Di Battista T., Caruso G., Gattone S.A. (2020) “*A micro-level analysis of regional economic activity through a PCA approach*”, Decision Economics: Complexity of Decisions and Decisions for Complexity, pp 227-234

Di Battista T., Gattone S.A., Fortuna F. (2019) “*Estimating co-occurrences index in finite populations*”, ITACOSM 2019-Survey and Data Science

Di Battista T., Fortuna F., Maturo F. (2019) “*Biodiversity spatial clustering*”, CLADAG 2019 Book of Short Papers, pp. 203-206

Di Battista T., Maturo F., Fortuna F. (2019) “*Unsupervised Fuzzy Classification For Detecting Similar Functional Objects*”, CLADAG 2019 Book of Short Papers

Di Battista T., et al. (2019) “*Monitoring the spatial correlation among functional data stream through moran’s index*”, Springer proceedings in Mathematics and Statistics, 288, pp.3-12

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In faith
Tonio Di Battista

