PAOLA BERCHIALLA

Curriculum Vitae

Department of Clinical and Biological Sciences

University of Torino

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Github in Linkedin

Brief description

- o I am Associate Professor of Biostatistics at the University of Torino, Italy
- I have worked with several national and international institutes, such as the University of Padova (Italy), Institute of Cancer Research and Treatment of Candiolo (Torino, Italy), the Centre de Recherche des Cordeliers (Paris, France)
- I have worked on projects funded by the European Food Safety Authority, the EU DG-SANCO European Commission and the European Space Agency
- I have published over two hundred papers in international peer-reviewed journals
- Specific areas of expertise include: Bayesian Design for clinical trials, Causa Inference, and Machine Learning applied to epidemiological research and clinical decision support

Education

2004 PhD, Applied Statistics, University of Firenze, Italy.

THESIS: Applying Bayesian Models to Forensic Data

2003 **Visiting doctoral researcher**, *University of Oxford*, UK.

PhD visiting student at the Department of Statistics

1999 M.Sc in Mathematics, University of Torino, Italy.

THESIS: On the Liapunov's Theorem

Work Experience

Current roles

2023-pres **Biostatistician**, Territorial Ethics Committee, City of Health and Sciences, Torino. DPGR n 26 12/06/2023 **%**

2022-pres Advisor Biostatistician, World Athletics Independent Research Ethics Committee, Monaco.

2021-pres **Statistical Consultant of the Working Group on Rehabilitation**, Italian Association of Pediatric Hematology and Oncology (AIEOP) **Q**.

2021-pres Biostatistician at the Independent Data Safety Monitoring Committee.

Radiation-Free Therapy for the Initial treatment of Good prognosis early non-bulky HL, defined by a low Metabolic Tumor Volume and a negative interim PET after 2 chemotherapy cycles (RAFTING) Trial (NCT number: NCT04866654)

number. NC104000034

Director of the Biostatistics area of the Centre for Biostatistics, Epidemiology and Public Health

2019—pres Chair of the Working Group on Machine Learning in Clinical Research, Italian Association of Medical Statistics and Epidemiology .

2018-pres Member of the International Health Behaviour in School-Aged Children (HBSC) Study and Research Network Q.

Member of the focus group on Social Inequalities; member of the HBSC-Italy Study Group

2018—pres **Director of the Master in Advance Biostatistics for Clinical Research**, University of Padova, Italy **3**.

2019—pres *Member of the Working Group on Ethics Committee*, Italian Association of Medical Statistics and Epidemiology.

Past roles

- Feb-Jun 2023 Biostatistician, Ethical Committee, Candiolo Cancer Institute IRCCS, Torino, Italy.
 - 2017–2020 **Tenured Assistant Professor in Biostatistics**.

 Department of Clinical and Biological Sciences, University of Torino, Italy
 - 2012–2015 Assistant Professor in Biostatistics.
 - Department of Clinical and Biological Sciences, University of Torino, Italy 2007–2012 *Postdoctoral Fellow*.
 - Department of Public Health and Pediatric Sciences (Formerly Department of Public Health and Microbiology), University of Torino, Italy

Conference and Scientific Program Committees

- 2024 **Member Program Committee**, 3rd AlxIA Workshop on Artificial Intelligence For Healthcare, 23rd International Conference of the Italian Association for Artificial Intelligence , Bolzano, Italy.
- 2023 **Member Program Committee**, 2nd AlxIA Workshop on Artificial Intelligence For Healthcare, 22nd International Conference of the Italian Association for Artificial Intelligence **Q**, Rome, Italy.
- 19 Jun 2023 *Organizer*, *Workshop on Health Surveillance and Artificial Intelligence: Addressing Challenges and Seizing Opportunities*, Torino, Italy.

 Intermediate project workshop to illustrate the results of the project TrustAlert funded by Fondazione Compagnia San Paolo
- 20 Sept 2023 *Organizer*, Pre-congress course at the XI Congress of the Italian Society of Medical Statistics and Clinical Epidemiology , Jesi, Italy.

Title: Al in Health: methodological approaches and best practices. Learning by doing

- 2022 **Member Program Committee**, 1st AlxIA Workshop on Artificial Intelligence For Healthcare, 21st International Conference of the Italian Association for Artificial Intelligence ③, Udine, Italy.
- 28 Jan 2022 **Session Organizer and Moderator**, Winter School of the PhD Program in Translational Medicine G.B. Morgagni, University of Padova, Italy.

 Session Topic: Machine Learning and Prediction in COVID-19 epidemics
- 15 Sept 2021 *Organizer*, *Pre-congress course at the XI Congress of the Italian Society of Medical Statistics and Clinical Epidemiology*, Bari, Italy.

 Title: Machine Learning. Instructor: Dr Alison Hill (Rstudio)
 - 18-20 Oct **President Organizing Committee**, Alpe Adria-Young Statisticians Meeting (Austria, Slovenia, 2019 Croatia, Hungary, Italy Region), Basovizza, Italy .
- 10 May 2019 *Member of the Scientific Committee*, 1st Bayesian Day for Clinical Research Workshop, University of Torino, Italy.

 Worshop co-organized with the Italian Biostatistics Workgroup of the Italian Society of Pharmaceutical Medicine
 - 2017-pres **Faculty Member**, PhD Program in Translational Medicine G.B. Morgagni, University of Padova, Italy.
 - 16-19 Sept *Member of the Organizing Committee*, VIII National Congress of the Italian Society of 2015 Medical Statistics and Clinical Epidemiology, Torino, Italy.
 - 10-12 Sept Member of the Organizing Committee, Joint Meeting METMA VII (International Workshop on Spatio-Temporal Modeling) -- GRASPA14 (meeting of the Research Group for Statistical Applications to Environmental Problems, Torino, Italy.

Funded projects

2023–2025 *TrustAlert*.

Role: Principal Investigator

Funding: 1,000,000€ – Fondazione Compagnia San Paolo and CDP Foundation

Aims: to develop AI solutions to (i) detect and alert health emergencies; (ii) map the patterns of morbidity and medical vulnerabilities within communities; (iii) establish a living lab to perform

epidemic spread simulations at micro and macro levels

Consortium: Department of Clinical and Biological Sciences (University of Torino); Bruno Kessler Foundation;

Department of Computer Sciences (University of Torino); LINKS Foundation; Innovo Group;

Local Health Authority Alba-Bra (ASL-CN2); Cottolengo Hospital

2024–2025 *Repertor.io*.

Role: Principal Investigator

Funding: 80,100€ - PNRR

Aims: to develop a platform for collecting, annotating, and analyzing patient preferences studies

Research Dept. of Clinical and Biological Sciences (University of Torino); Dept. of Public Health and

Group: Pediatrics Sciences (University of Torino)

2023 Incorporating Patient Preference Studies into Clinical Research and Decision Model.

Role: Principal Investigator

Funding: 45,000€ – University of Torino, Compagnia di San Paolo Foundation

Aims: to develop a proof of value for integrating patient preferences into clinical research

Research Dept of Clinical and Biological Sciences (University of Torino); Dept of Public Health and

Group: Pediatrics Sciences (University of Torino); Dept of Cardiac, Thoracic, Vascular Sciences and

Public Health (University of Padova)

2020–2021 EPICO19: EPIdemiological COvid19 model.

Role: Associated Investigator

Funding: 20,000€ – European Space Agency

Aims: to support public health technicians and decision-makers in managing the COVID-19 outbreak

Consortium: Terraria s.r.l.; Dept of Biomedical, Metabolic and Neural Sciences (University of Modena and

Reggio Emilia); Dept of Clinical and Biological Sciences (University of Torino)

2020–2021 Regional analysis of the incidence of non-small cell and small cell lung cancer.

Role: Principal Investigator

Funding: 40,000€ - Roche S.p.A

Aims: to develop a validated procedure to estimate the incidence and prevalence of non-small-cell and

small-cell lung cancer from healthcare administrative data.

Research Dept of Clinical and Biological Sciences (University of Torino); Dept of Public Health and

Group: Pediatrics Sciences (University of Torino)

2021 Feasibility study for the use of major Pathological Response and pathological Complete

Response in the Real World.

Role: Principal Investigator

Funding: 5,000€ - AstraZeneca

Aims: to investigate whether a Natural Language Processing algorithm can be trained to retrieve

pathological Complete Response and major Pathological Response readings on pathology reports

Research Dept of Clinical and Biological Sciences (University of Torino); Innovo Group

Group:

2019 Machine Learning for survival data analysis in clinical trials.

Role: Principal Investigator

Funding: 9,000€ – Hospital Santa Croce and Carle (Cuneo, Italy)

Aims: to develop a predictive model combining radiomics features and clinical risk factors to predict

progression-free survival in patients with diffuse large B-cell lymphoma from the phase 3 GOYA

trial (NCT01287741)

2017–2019 Rescuing Clinical Trials terminated prematurely for poor accrual.

Role: Principal Investigator

Funding: 13,000€ - University of Torino & Lotta ai Tumori del Peritoneo Onlus

Aims: to develop approaches to rescue Clinical Trials terminated prematurely for poor accrual

Research Dept of Clinical and Biological Sciences (University of Torino); Dept of Cardiac, Thoracic, Vascular

Group: Sciences and Public Health (University of Padova)

2015–2017 Machine Learning Techniques Applied in Risk Assessment Related to Food Safety.

Role: Associated Investigator

Funding: 385,000€ - European Food Safety Agency

Aims: to investigate Machine Learning Techniques applied in risk assessment related to food safety

Consortium: Experimental Zooprophylactic Institute for Piedmont, Liguria and Valle d'Aosta; Dept of Cardiac,

Thoracic, Vascular Sciences and Public Health (University of Padova); Dept of Clinical and

Biological Sciences (University of Torino); Zeta Research s.r.l

2013–2016 Multidisciplinary study of the genetic basis of the mechanism of disease and response to treatment of rare diseases: outcomes in genomics perspective.

Role: Associated Investigator

Funding: 40,000€ - University of Torino

Aims: (i) to enhance genetic diagnosis and treatment options for lymphangioleiomyomatosis (LAM); (ii)

to validate the effectiveness of mTOR inhibitors, and identify predictive factors for therapeutic response to mTOR inhibitors in LAM; (iii) to identify risk factors associated with disease severity and therapy response to characterize patients with abnormal therapy response genetically

Research multidisciplinary research team of the Dept of Clinical and Biological Sciences

Group:

2009 Scale up methodology to estimate incidence of home injuries.

Role: Principal Investigator

Funding: 5,000€ - Piedmont Region

Aims: to estimate the size of fall injuries in elderly

2002 Advanced forensic statistics. Bayesian modeling applied to the analysis of mitochondrial

DNA.

Role: Principal Investigator

Funding: 5,000€ – University of Firenze

Aims: to develop statistical techniques to analyze mitochondrial DNA in forensic investigation

Main Research Areas and Collaborations

Subject Research Methodology in Clinical Trials and Clinical Epidemiology.

Output Peer-reviewed journal articles, Funded projects, Invited talks, Courses organization, Software

development

Activity I have been involved in several collaborative projects to develop advanced statistical methodologies

to design and analyze clinical trials:

- Generalizability of Clinical Trial Results: Worked with the University of Padova on transposing clinical trial estimates to clinical practice and assessing the generalizability of enrollment criteria to real-world populations
- Re-analysis of Clinical Trials: Applied Bayesian approaches to rescue results of clinical trials terminated prematurely. Several research projects in collaboration with the University of Padova, the University of Ferrara, the San Luigi Gonzaga Hospital (Torino, Italy), the Institute of Cancer Research (Candiolo, Italy)
- Bayesian Sample Size Determination: Focused on Bayesian sample size determination for clinical trials using historical data and semi-parametric priors elicitation. Several research projects in collaboration with INSERM, Centre de Recherche des Cordeliers (Paris, France), University of Ferrara, University of Padova
- Prognostic models and heterogeneity assessment: Developed prognostic models and approaches
 to identify sources of variability and heterogeneity in patient outcomes, enhancing the precision
 and applicability of clinical predictions. Several research projects in collaboration with Molinette
 Hospital (Torino, Italy), Mauriziano Hospital (Torino, Italy), San Luigi Gonzaga Hospital
 (Torino, Italy)
- *Propensity Score Evaluation*: Assessment of the use of propensity score approaches in non-randomized trials, in collaboration with the University of Padova

Subject Machine Learning and AI in Clinical Epidemiology.

Output Peer–reviewed journal articles, Funded projects, Invited talks, Courses organization, Software development

Activity I have participated in various projects employing deep learning, artificial intelligence, and machine learning to assess health outcomes and support clinical decision-making:

- Machine Learning in Clinical Trials: Developed machine learning approaches to incorporate external data into clinical trials in collaboration with the University of Bath
- Radiomics and Prognostic Models: Utilized artificial intelligence to identify radiomic features and enhance radiomics prognostic models, working with San Luigi Gonzaga Hospital in Torino, Italy, and Hospital Santa Croce and Carle in Cuneo, Italy
- Text analysis of clinical notes: Applied machine learning and Natural Language Processing techniques for case detection in routinely collected textual ambulatory records, in collaboration with the University of Padova, LINKS Foundations, Cottolengo Hospital (Torino, Italy)
- Screening PubMed Abstracts: Implemented machine learning approaches to screen PubMed abstracts, in collaboration with the University of Padova
- Bayesian Networks for Prognostic Modeling: Developed clinical decision tools based on Bayesian Networks, in collaboration with the University of Padova, Sant'Andrea Hospital in Rome, Italy, and Niguarda Hospital in Milan, Italy

Subject **Epistemology**.

Output Peer-reviewed journal articles, Invited talks

Activity I have been involved in collaborative projects that focus on enhancing clinical research methodologies and evidence-based practices:

- The Power of Meta-Analysis in the Evidence-Based Framework: Explored the value of meta-analysis within the evidence-based framework, in collaboration with Polytechnic of Milan and the University of Eastern Finland
- Foundations of Clinical Reasoning: Editor of a Special Issue aimed at investigating the foundation of clinical reasoning, in collaboration with the University of Ferrara and the Polytechnic of Milan
- The role of randomization in clinical trial design:: Examined the role of randomization in both Bayesian and frequentist design of clinical trials, working in collaboration with the University of Padova

Subject Surveillance Systems in Public Health for Risk Assessment.

Output Peer-reviewed journal articles, Funded projects, Software development, Public Engagement

Activity I have contributed to several collaborative projects aimed at enhancing public health through predictive systems, data analysis, and surveillance

- Predictive Healthcare Systems and AI for Epidemics: Established predictive healthcare systems and artificial intelligence solutions for epidemic management to enhance health emergency preparedness as part of the TrustAlert Project
- COVID-19 Forecasting: Developed Deep Learning models for spatio—temporal forecasting of new COVID-19 cases and hospital admissions to support decision-makers in managing epidemic outbreaks, in collaboration with the University of Reggio Emilia
- Health Behaviors in Adolescents: Analysis of cross-sectional data to investigate health behaviours in 11-15 years old, in collaboration with the Health Behaviours in School-Aged Children Study (HBSC) International Network and the National Institute of Health
- o Treatment outcome models for Registry data: Developing analysis tools to assess the treatment outcomes within: (i) the Human Growth Hormone Piemonte Registry, (ii) Amyotrophic lateral sclerosis Piedmont Registry
- Injury Surveillance System: Established urveillance System on Suffocation Injuries Due to Foreign Bodies in European Children (Susy Safe), within DG SANCO EU project and utilized information extraction approaches on unconventional data sources like newspaper clipping for injury surveillance system

Clinical Trial Protocols.

Following is the list of most recent protocols in which I have the role of leading biostatistician

- A national multicentre pediatric framework and digital infrastructure to foster a genomic approach for children and adolescents with high-risk solid tumors (Genom-ACT) (2024).
 Promoter: University Hospital, City of Science and Health of Torino
- SAfety and diagnostic perFormance of CT-guided transthoracic corE needle biopsy in patients with Interstitial Lung Abnormalities (SAFE-ILA) (2024). Promoter: Department of Oncology, University of Torino
- Renewed memory: neurobiological and clinical correlates of prolonged grief in relatives of deceased cancer patients (2024). Promoter: University Hospital, City of Science and Health of Torino
- In-vivo Radiomics study of pulmonary IEsions diagnosed with CT-guided percutaneouS needle biopsy: impact of radiation dOse LeVels and rEconstruction parameters (RESOLVE) (2024).
 Promoter: Department of Oncology, University of Torino
- How our lifestyle changes. Our Research. Your Health (MINERVA) (2023)
- Mirror Neuron System and Rehabilitation: action observation can improve balance control
 in pediatric patients subject to allogenic transplantation of hemopoietic stem cells. (2022).
 Promoter: University Hospital, City of Science and Health of Torino
- Interaction between gut microbiota and tyrosine kinase inhibitors in defining the clinical outcomes of patients with Chronic Myeloid Leukemia (2022). Promoter: Department of Clinical and Biological Sciences, University of Torino
- Obinutuzumab treatment for IgM-related polyneuropathies: a monocentric trial for interdisciplinary clinico-molecular characterization and evaluation of response (2022)
- Involving Operators in Bed Enhancement Development I.O. BED (2022)
- Use of the GAS scale for active involvement of patients and family in identifying functional goals during hospitalization in CTCS: a randomized controlled study - GAS IN TRANSPLANTATION (GAST) (2021). Promoter: University Hospital, City of Science and Health of Torino

- Technological assessment on pathological Complete Response and Major Pathological Response in routine pathology reports of resected early stage lung cancer patients after neoadjuvant therapy (2021). Promoter: Department of Clinical and Biological Sciences, University of Torino
- Cytorective surgery and pressurized intraperitoneal aerosol chemotherapy: feasibility and safety
 of the combined approach: PLUS Study (2021). Promoter: Cancer Research Insitute, Candiolo
 (Torino)
- Psycho-emotional impact of preoperative counseling in the context of cervicocarcinoma screening programs (2021). Promoter: University Hospital, City of Science and Health of Torino
- Observational Study in Adult Patients with Chronic Myeloid Leukemia who discontinue Tyrosine Kinase Inhibitors in Italy (2020). Promoter: Department of Clinical and Biological Sciences, University of Torino
- Retrospective-Prospective Observational Study on the Rehabilitation Evaluation of Pediatric Patients suffering from oncological pathology (2018). Sponsor: University Hospital, City of Science and Health of Torino
- A Phase I, dose-escalation study of Cisplatin applied as Pressurized Intraperitoneal Aerosol Chemotherapy (PIPAC) for the treatment of peritoneal carcinomatosis (2017). Promoter: Cancer Research Institute, Candiolo (Torino)

Conferences

Invited Speaker

- 30 Jan 2025 **Rolling Stone The second milestone meeting**, *San Luigi Gonzaga University Hospital/Rivoli Hospital*, Torino, Italy.
 - Role: Discussant 😵
- 29 Jan 2025 Chronic Myeloid Leukemia Workshop, University of Torino, Torino, Italy.
 - Title: Patient Preferences for better care 3
- 2 Dec 2024 **Gynecological Tumors: Diagnosis and Treatment Strategies in the Oncology Network**, *AOU Città della Salute e della Scienza, PO S. Anna, University of Torino*, Torino, Italy.
 - Title: The role of Artificial Intelligence in Gynecologic Oncology 🔾
- 1 May 2024 CRUK Research Dissemination Workshop, Cancer Research UK, Bath, UK.
 - Title: Enhancing Bayesian two-endpoints adaptive design with semiparametric priors 🚱
- 21 Apr 2024 **58th Annual Meeting EDEG Conference**, European Diabetes Epidemiology Group (EDEG), Pesaro, Italy.
 - Title: The Potential of AI and Machine Learning in Precision Medicine and Healthcare: Addressing Methodological, Ethical, and Regulatory Challenges to Promote Good Research Practices
- 26 Feb 2024 **Journal Club I mitici**, Multicenter Italian Trials in Ovarian Cancer and Gynecologic Malignancies Group, Webinar.
 - Title: Clinical Trials through Al-Generated Synthetic Patients: A Data-Driven Approach to Efficiency
- 30 Jan 2024 **Understanding the importance of the Patient Preference**, *Italian Society of Pharmaceutical Medicine*, Webinar.
 - Title: The role of patient preferences into clinical studies and model decisions
- 4 Apr 2023 **Department of Cardiac, Thoracic and Vascular Sciences Seminar Series**, *University of Padova*, Italy.
 - Title: The Impact of Cutting-Edge Techniques on the Near Future of Biostatistics and Healthcare
- 26 Oct 2022 XXIX National SID Congress, Italian Society of Diabetology (SID), Rimini, Italy.
 - Title: AI, Network Medicine and Machine Learning: novel approach for precision medicine?
- 21 Oct 2022 Intermediate SISMEC Congress, Italian Society of Medical Statistics and Clinical Epidemiology (SISMEC), Napoli, Italy.

- Title: Efficient clinical trials in healthcare emergencies: advantages and challenges in their design
- 24 Jun 2022 **Workshop on Uncertainty in the Sciences**, *Scientific event of the BRIO Project (PRIN project)*, Polytechinic of Milan, Italy.
 - Title: Prediction of treatment outcome and modelling uncertainty in clinical trials under a personalized medicine perspective
- 23 Jul 2021 Teaching Probability and Statistics Workshop, Italian Mathematics Union, Webinar.
 - Title: Teaching Probability and Statistics in Medical School
 - May 2021 Winter School PhD Medical Student, organized by the PhD Doctoral School Translational Specialist Medicine "G.B. Morgagni", University of Padova, Webinar.
 - Title: Predicting COVID-19 epidemic behavior via Deep Learning approaches
 - 2020 COVID-19: Statistical and epidemiological models for epidemic phase 2 and potential long-term effects of lockdown workshop, Italian Society of Pharmaceutical Medicine, Webinar.
 - Title: The impact of public health actions against COVID-19
 - Apr 2019 **Toward a glossary of vulnerabilities: interdisciplinary aspect**, *Dept of Architecture and Urban Studies Seminar Series*, Polytechnic of Milan, Italy.
 - Title: Determinant of risk: hazard, exposure and vulnerability
- 8 Nov 2019 **Workshop on Scientific Rationality & Strategic interaction**, *Scientific event of the Philipharm Project (ERC project)*, Bocconi University, Italy.
 - Title: Can you believe the results of a meta-analysis? The hetereogeneity, the power and the case of small meta-analyses
- 13 Mar 2019 Science & More Talks, Center for Logic, Language and Cognition, University of Torino, Italy.
 - Title: Can you believe the resuls of a meta-analysis? The heterogeneity, the power and the case of small meta-analyses
- 22 Nov 2018 **IBIG Statistical Forum**, Italian Society of Pharmaceutical Medicine (SIMEF) & Italian Biostatistics Group (IBIG), Padova, Italy.
 - Title: Prior Distributions, Predictions, Probability of Success
- 28 Sept 2017 IX BIAS Congress, Associated Industry Biometricians (BIAS) Association, Parma, Italy.
 - Title: Personalized Medicine for observational studies: targeted Machine Learning of causal effects
- 19 Sept 2015 VIII Congress of the Italian Society of Medical Statistics and Clinical Epidemiology, Italian Society of Medical Statistics and Clinical Epidemiology, Torino, Italy.
 - Title: Semi-parametric Bayesian Models for Longitudinal Data
- 17 Nov 2011 R User Group Meeting, Torino User Group, Torino, Italy.
 - Title: Showcase of R in Biostatistics
- 24 Mar 2010 Workshop on Surveillance System on Suffocation Injuries due to Foreign Bodies EU-Project, Susy Safe Project funded by EU DG-SANCO EU, Bruxelles, Belgium.
 - Title: Guidelines to prevention of Surveillance System on Suffocation Injuries due to Foreign Bodies.

 Statistical considerations
- 10 Nov 2009 **Department of Cardiac, Thoracic and Vascular Sciences Seminar Series**, *University of Padova*, Italy.
 - Title: Skellam Model for Continuous Reassessment of ICU Performance
- 16 Sept 2009 **V SISMEC Congress**, Italian Society of Medical Statistics and Clinical Epidemiology (SISMEC), Pavia, Italy.
 - Title: Innovative Clinical Trials Designs: Critical Aspects and Recommendations
- 17 Oct 2009 14th Alpe-Adria Young Statistician Meeting, Basovizza, Italy.
 - Title: Flexibility of Bayesian Generalized Linear Mixed Models for Oral Health Research

- 5 Nov 2005 **10th Alpe-Adria Young Statistician Meeting**, *Seggau*, Austria.
 - Title: Inference from mitochondrial DNA data in forensic identification Contributed presentations
- 19 May 2021 **42nd SCT Annual Meeting**, Society of Clinical Trials, Virtual Meeting.
 - Title: Prediction of Treatment Outcome in Clinical Trials: A Machine Learning approach
- 22 May 2018 39th SCT Annual Meeting, Society of Clinical Trials, Portland (OR), US.
 - Title: Objective inference to adjust for baseline covariates in the analysis of RCTs for increasing efficiency
- 8 May 2017 4th International Clinical Trials Methodology Conference & 38th SCT Annual Meeting, Society of Clinical Trials, Liverpool, UK.
 - Title: Single Agent trastuzumab or lapatinib to treat HER2-overexpressing breast cancer: combining past and current evidence in a Bayesian re-analysis
- 12 Jun 2014 46th SIS Annual Meeting, Italian Statistical Society, Cagliari, Italy.
 - Title: Spatial Modeling for air pollution epidemiology: hospital admission risk for cardio-respiratory diseases in Torino province
- 27 Jun 2013 Italian IBS Meeting, Italian Biometric Society, Bressanone, Italy.
 - Title: Incorporating prior elicitation in a Bayesian predictive two-stage design for phase II clinical trials
- 18 Jun 2012 21th Europe- SRA Conference, Europe Society of Risk Analysis, Zurich, Switzerland.
 - Title: Comparing Bayesian network, artificial neural networks, classification trees and classical logistic models in quantitative risk assessment
 - 8 Jul 2011 **21th International Conference on Childhood Obesity**, *CIOI Research in Childhood Obesity*, Lisboa, Portugal.
 - Title: Understanding Childhood obesity: a data-driven approach based on Bayesian networks
- 29 Jun 2009 **18th Europe- SRA Conference**, Europe Society of Risk Analysis, Karlstadt, Sweden.
 - Title: Comparing Adaptive Bayesian Network, Artificial Neural Networks, Classification Trees and Classical Logistic Models in Quantitative Risk Assessment: the Case Study of Foreign Body Injuries in Children
- 7 Oct 2007 **48th Annual Meeting of the European Society for Paediatric Research**, European Society for Paediatric Research, Prague, Czech Republic.
 - Title: Epidemiology of Foreign Body Injuries in Children using a Data-Driven Bayesian Network
- 21 Sept 2007 **IV SISMEC Congress**, Italian Society of Medical Statistics and Clinical Epidemiology (SISMEC), Palermo, Italy.
 - Title: Multivariate adaptive regression splines for predicting burn patients mortatlity
- 10 Sept 2007 Austro-Swiss BS Meeting, Austro-Swiss Biometric Society, Bern, Switzerland.
 - Title: Bayesian Networks for pathological scarring due to burn injuries
 - 1 Jul 2007 **6th European Congress Oto-Rhino-Laryngology Head and Neck Surgery**, European Oto-Rhino-Laryngology Head and Neck Surgery Society, Wien, Austria.
 - Title: Foreign body injuries in children: the Susy Safe Project
 - 8 Aug 2006 Joint Statistical Meeting, American Statistical Association, Seattle, US.
 - Title: A comparison of Bayesian Networks and MCMC techniques for quantitative risk assessment
 - 27 Jul 2006 International Federation of Classification Societies Conference, International Federation of Classification Societies, Ljubljana, Slovenia.
 - Title: Bayesian Models for Safety Design to Prevent Foreign Body Injuries in Children
 - 18 Jul 2006 IBS Conference, International Biometric Society Conference, Montreal, Canada.
 - Title: Bayesian Models for Safety Design to Prevent Foreign Body Injuries in Children

- Title: Total Quality Test to Overcome Workers's Inadequacies: An Application in an Italian Hospital
- 30 May 2006 **Statistical Model for Biological and Technical Systems Conference**, *Institute of Mathematical Statistics*, Lymassol, Cyprus.
 - Title: Bayesian Models for Safety Design to Prevent Foreign Body Injuries in Children
 - 6 Apr 2006 **2nd International Seminar on Injury Research Methods**, *International Society for Violence and Injury Prevention*, Cape Town, South Africa.
 - Title: Bayesian Networks for quantitative risk assessment of foreign body injuries in children

Recent publications

Journal Articles

- E. Tirtei, A. Campello, V. Sciannameo, S.D. Asaftei, C. Meazza, G. Sironi, A. Longhi, T. Ibrahim, A. Tamburini, L. Coccoli, F. Crocco, C. Cagnazzo, E. De Luna, P. Quarello, Berchialla, P., and F. Fagioli. Prolonged 14-day continuous infusion of high-dose ifosfamide for patients with relapsed and refractory high-grade osteosarcoma: a retrospective multicentre cohort study. BMC Cancer, 2024, volume 24, 10.1186/s12885-024-12498-x.
- V. Sciannameo, D.J. Pagliari, S. Urru, P. Grimaldi, H. Ocagli, S. Ahsani-Nasab, R.I. Comoretto, D. Gregori, and Berchialla, P. Information extraction from medical case reports using openai instructgpt. *Computer Methods and Programs in Biomedicine*, 2024, volume 255, 10.1016/j.cmpb.2024.108326.
- F. Rossi, M. Valle, G. Galeoto, M. Tofani, Berchialla, P., V. Sciannameo, D. Bertin, A. Calcagno, R. Casalaz, M. Cerboneschi, M. Cervo, A. Cornelli, C. Di Pede, M. Esposito, M. Ferrarese, P. Imazio, M. Lorenzon, L. Longo, A. Martinuzzi, G. Naretto, N. Orsini, D. Panzeri, C. Pellegrini, M. Peranzoni, F. Picone, M. Rabusin, F. Ricci, C. Zigrino, G. Zucchetti, and F. Fagioli. Internal consistency and floor/ceiling effects of the gross motor function measure for use with children affected by cancer: A cross-sectional study. *Current Oncology*, 2024, volume 31, pages 5291–5306, 10.3390/curroncol31090390.
- A. Pierri, S. Albani, M. Merlo, A.L. Buongiorno, A. Ricotti, G. Grilli, D. Barbisan, S. Grossi, C. De Rosa, B. Mabritto, S. Luceri, S. Bongioanni, F. Negri, M. Burelli, M. Millesimo, F. Biondi, M. Cireddu, J. Berg, M.B. Musumeci, P. Di Donna, P.F. Vianello, A. Del Franco, M. Scaglione, G. Barbati, S. Urru, Berchialla, P., G.M. De Ferrari, V. Russo, E. Agricola, M. Imazio, I. Porto, M. Canepa, G. Peretto, P. Francia, D. Castagno, C. Autore, I. Olivotto, F. Gaita, G. Sinagra, and G. Musumeci. Transcatheter ablation of atrial fibrillation in patients with hypertrophic cardiomyopathy: A multicenter propensity score-based analysis. JACC: Advances, 2024, volume 3, 10.1016/j.jacadv.2024.100899.
- V. Masoni, F. Giustra, F. Bosco, L. Camarda, G. Rovere, V. Sciannameo, Berchialla, P., and A. Massè. Surgical treatment of popliteomeniscal fascicles tears is associated with better patient-reported outcome measures. a systematic review and meta-analysis. *European Journal of Orthopaedic Surgery and Traumatology*, 2024, volume 34, pages 9–20, 10.1007/s00590-023-03645-4.
- 2024 G. Lorenzoni, D. Gregori, S. Bressan, H. Ocagli, D. Azzolina, L. Da Dalt, and **Berchialla, P.** Use of a large language model to identify and classify injuries with free-text emergency department data. *JAMA Network Open*, 2024, page E2413208, 10.1001/jamanetworkopen.2024.13208.
- 2024 L. Charrier, A. Vieno, N. Canale, T. ter Bogt, R.I. Comoretto, E. Koumantakis, M. Lenzi, and Berchialla, P. Can we predict adolescent cannabis use? a bayesian semi-parametric approach to project future trends. *Addictive Behaviors*, 2024, volume 154, 10.1016/j.addbeh.2024.108009.
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- 2021 G. Lorenzoni, R. Rampazzo, A. Buratin, **Berchialla, P.**, and D. Gregori. Does the integration of pre-coded information with narratives improve in-hospital falls' surveillance? **Applied Sciences** (**Switzerland**), 2021, volume 11, 10.3390/app11104406.

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- 2021 A. Hochdorn, A. Oliveira, G. Lorenzoni, A. Francavilla, S. Baldas, Berchialla, P., A. Oliveira, V.P. Alves, D. Gregori, and D. Azzolina. Monitoring public perception of health risks in brazil and italy: Cross-cultural research on the risk perception of choking in children. *Children*, 2021, volume 8, 10.3390/children8070541.
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- 2021 M.T. Bochicchio, J. Petiti, Berchialla, P., B. Izzo, E. Giugliano, E. Ottaviani, S. Errichiello, G. Rege-Cambrin, C. Venturi, L. Luciano, F. Daraio, D. Calistri, G. Rosti, G. Saglio, G. Martinelli, F. Pane, D. Cilloni, E.M. Gottardi, and C. Fava. Droplet digital pcr for bcr–abl1 monitoring in diagnostic routine: Ready to start? *Cancers*, 2021, volume 13, 10.3390/cancers13215470.
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- 2021 **Berchialla, P.**, V. Sciannameo, S. Urru, C. Lanera, D. Azzolina, D. Gregori, and I. Baldi. Adjustment for baseline covariates to increase efficiency in rcts with binary endpoint: A comparison of bayesian and frequentist approaches. *International Journal of Environmental Research and Public Health*, 2021, volume 18, 10.3390/ijerph18157758.
- V. Basile, S. Puglisi, B. Altieri, L. Canu, R. Libè, F. Ceccato, F. Beuschlein, M. Quinkler, A. Calabrese, P. Perotti, **Berchialla, P.**, U. Dischinger, F. Megerle, E. Baudin, I. Bourdeau, A. Lacroix, P. Loli, A. Berruti, D. Kastelan, H.R. Haak, M. Fassnacht, and M. Terzolo. What is the optimal duration of adjuvant mitotane therapy in adrenocortical carcinoma? an unanswered question. *Journal of Personalized Medicine*, 2021, volume 11, 10.3390/jpm11040269.
- D. Azzolina, **Berchialla**, **P**., D. Gregori, and I. Baldi. Prior elicitation for use in clinical trial design and analysis: A literature review. *International Journal of Environmental Research and Public Health*, 2021, volume 18, pages 1–21, 10.3390/ijerph18041833.

Honors & Awards

- 2015 **Best Prediction Model Award** at Stats Under the Stars Data Science competition organized by the University of Padova
- 2007 **Travel Award for Best Paper** from American Statistical Associtation Section of Risk Analysis to attend the *Joint Statistical Meeting*, 2007 in Salt Lake City, US.

Editorial activity

- 2024 **Reviewer** of research proposal for the Swiss Cancer League
- 2023 **Guest Associated Editor** for Frontiers Public Health Special Issue Machine Learning Approaches for Monitoring Mental Health and Substance Abuse Using Social Media Data
- 2023 Guest Associated Editor for Frontiers in Sociology %
- 2019 **Guest Editor** of the Special Issue Foundations of Clinical Reasoning: An Epistemological Stance on Topoi: An International Review of Philosophy (Springer Journal)
- 2017–2018 Reviewer for the American Medical Informatics Association Annual Symposium
- 2012–2014 Reviewer of research proposal for the South Africa Medical Research Council

Reviewer for the following international journals: Acta Diabetologica, Biometrical Journal, BMC Health Services Research, BMC Medical Research Methodology, BMJ Open, British Journal of Psychiatry, Cell and Tissue Banking, Computer in Biology and Medicine, Computer Methods and Programs in Biomedicine, Current Medical Research & Opinion, Diabetes Care, Disease Markers, Diabetes Obesity and Metabolism, Ecology and Food Nutrition, Expert Review Respiratory Medicine, Global Philosophy, International Journal of Biological Markers, International Journal of Cancer, International Journal of Environmental Health Research, Injury Epidemiology, Injury Prevention, Journal of Adolescence Health, Journal of Applied Statistics, Journal of Biomedical Informatics, Journal of Evaluation in Clinical Practice, Journal of Health Psychology, Journal of Medical Internet Research, Journal of Nephrology, Journal of Precision Medicine and Public Health, Mathematics and Computers in Simulation, Nature Communications, Neurodegenerative Disease Management, Nutrition Review, Obesity Research & Clinical Practice, Plos One, Preventive Medicine, Progress in Artificial Intelligence, Scientific Reports, Socio-Economic Planning Sciences, Statistics in Medicine, Scandinavian Journal of Public Health, Statistical Methods & Applications, Studies and Applied Philosophy Epistemology and Rational Ethics, Trials

Service activity

Sept-Nov *Member*, Commission for developing the Guidelines for an ethical and conscious use of AI for 2023 teaching and learning, University of Torino, Italy.

Guidelines approved on 12/2023 by Academic Senate of the University of Torino

2021—pres MEDCAP Department Internal Staff Contact, Department of Clinical and Biolotical Sciences,

University of Torino, Italy.

Point of contact between System Administrators, Principal Investigators, and the Head of Department to help ensure that the User Policy for the Electronic Data Collection Service for Research at the School of Medicine (MEDCAP) of the University of Torino is properly applied

2014–2016 **Member**, Commission for Teaching at the Department of Clinical and Biological Sciences, University of Torino, Italy.

Bibliometrics

H-index: 35

Total number of citations: 4,458

Number of papers: 279

Number of papers in the last 10 years: 190Number of papers in the last 5 years: 127