Europass Curriculum Vitae

Personal information

Name / Surname	**Pini, Alessia**
Telephone	+39 02 23994699
Personal Email	alessia.pini@unicatt.it
Nationality	Italian
Date of birth	September 5th, 1985
Gender	Female

Current position

Oct. 2023 - now

Associate Professor.
Dept. of Statistical Sciences, Università Cattolica del Sacro Cuore, Milan, (Italy).

Past positions

Mar. 2018 - Sept. 2023

Tenure Track Assistant Professor.
Dept. of Statistical Sciences, Università Cattolica del Sacro Cuore, Milan, (Italy).

May 2017 - Feb. 2018

Post-Doctoral Researcher.
Dept. of Statistics, Umeå School of Business and Economics, Umeå University, (Sweden).

Feb. 2015 - Apr. 2017

Post-Doctoral Researcher.
Dept. of Mathematics, Politecnico di Milano, (Italy).

Oct. 2011 - 13 Dec. 2014

European PhD in Mathematical Models and Methods in Engineering.
Dept. of Mathematics, Politecnico di Milano, Milan (Italy).
Thesis: *Global and Component-Wise Distribution-Free Inference for Functional Data: Methods and Applications.*
Supervisor: Prof. Simone Vantini

Sept. 2011 - Dec. 2011

Dept. of Mathematics, Politecnico di Milano
Position: research collaboration funded by by Progetto Strategico Regione Lombardia: "Metodi statistici per la decomposizione di segnali di natura biomedica provenienti dal processo di cura di pazienti affetti da Sindromi Coronariche Acute (ECG)".

Jan. 2011 - Sept. 2011

Deloitte Consulting SpA - Service Line Finance and Risk
Sector: consulting and finance. Position: intern then employee
Main activities: analyst in **Counterparty Risk project:** estimate of the Counterparty Credit Risk, for Risk Management unit of an Italian bank. Analyses of historical data of principal risk factors (e.g., interest rates), choice of a simulation model for the time evolution of risk factors, pricing of OTC derivatives. Backtesting and stress testing policies.

June 2008 - July 2008

Associazione Cometa

Sector: education. Position: volunteer learning support teacher

Main activities: support teaching (Physics, Mathematics) for high school students with family problems.

National Professional Qualifications

Jun. 2024 **National Academic Qualification as Full Professor of Statistics** (Abilitazione scientifica nazionale alla funzione di professore universitario di I fascia per il settore concorsuale 13/D1 Statistica).
Validity: 24/06/2024 – 24/06/2035

Sept. 2019 **National Academic Qualification as Associate Professor of Statistics** (Abilitazione scientifica nazionale alla funzione di professore universitario di II fascia per il settore concorsuale 13/D1 Statistica).
Validity: 10/09/2019 – 10/09/2028

Education

Oct. 2011 - 13 Dec. 2014 **European PhD in Mathematical Models and Methods in Engineering.**
Dept. of Mathematics, Politecnico di Milano, Milan (Italy).
Thesis: *Global and Component-Wise Distribution-Free Inference for Functional Data: Methods and Applications.*
Supervisor: Prof. Simone Vantini

Sept. 2008 - Dec. 2010 **M. Sc. in Mathematical Engineering.**
Politecnico di Milano, Milan (Italy).
Final mark: 106/110.
Major: Statistics. *Minor*: Finance.
Thesis: *Clustering di dati funzionali georeferenziati: studi di simulazione e analisi del database NASA "Earth Surface Meteorology and Solar Energy".*
Supervisor: Dr. Simone Vantini

Sept. 2006 - July 2008 **M. Sc. in Engineering (Diplôme d'Ingenieur).**
École Centrale Paris, Paris (France).
Major: Applied Mathematics.

Sept. 2004 - Sept. 2008 **B. Sc. in Mathematical Engineering.**
Politecnico di Milano, Milan (Italy).
Final mark: 106/110.
Thesis: *La volatilità nel calcolo del prezzo delle opzioni: il modello Constant Elasticity of Variance di Cox e Ross.*
Supervisor: Prof. Emilio Barucci

Career Breaks

2022-23 Maternity leave (5 months)
2020 Maternity leave (5 months)

Visiting and Study Periods Abroad

March. 2019 **Université de Rennes I**, Dept. of Mathematics, Rennes (France).

Jan. 2016 **University of Copenhagen**, Dept. of Mathematical Sciences, Copenhagen (Denmark).

Nov. 2015	**Umeå University**, Dept. of Mathematics and Mathematical Statistics, Umeå (Sweden).
Nov. 2015	**Free University of Bozen/Bolzano**, Alps Laboratory, Bolzano (Italy).
Nov. 2014	**Umeå University**, Dept. of Mathematics and Mathematical Statistics, Umeå (Sweden).
Jan. 2014 - Apr. 2014	**Umeå University**, Dept. of Mathematics and Mathematical Statistics, Umeå (Sweden).
Nov. 2013	**Umeå University**, Dept. of Mathematics and Mathematical Statistics, Umeå (Sweden).
Feb. 2012	**École Centrale Paris**. PhD school on Risk Assessment & Uncertainty Analysis. Paris (France).
Sept. 2006 - July 2008	**École Centrale Paris**. TIME: Top Industrial Managers for Europe program: double degree in one of France's top level Engineering Schools ("Grandes Écoles").

Journal Articles

Seydi M.R., Pini, A., Pataky, T., Schelin, L. (2024) "Confidence sets for intraclass correlation coefficients in test–retest curve measurements" *Journal of Biomechanics* 173, 112232, doi: 10.1016/j.jbiomech.2024.112232

Dondossola, D., Lonati, C., Pini, A., Bignamini, D., Zanella, A., Lombardi, R., Scaravilli, V., La Mura, V., Forzenigo, L., Biondetti, P., Grasselli, G., Fracanzani, A., Paleari, C., Cespiati, A., Todaro, S. Cattaneo, E., Di Feliciantonio, M., Sigon, G., Valsecchi, C., Guzzardella, A., Battistin, M., Iuculano, F. (2024) "Portal hypertension-like pattern in coronavirus disease 2019 acute respiratory distress syndrome" *Journal of Critical Care* 82, 154759, doi: 10.1016/j.jcrc.2024.154759

Colombi, A., Argiento, R., Paci, L., Pini, A. (2023) "Learning Block Structured Graphs in Gaussian Graphical Models" *Journal of Computational and Graphical Statistics*, doi: 10.1080/10618600.2023.2210184

Pini, A., Sorensen, H., Tolver, A., Vantini, S. (2023) "Local inference for functional linear mixed models" *Computational Statistics & Data Analysis*, 181, 107688, doi: 10.1016/j.csda.2022.107688

Abramowicz, K., Pini, A., Schelin, L., Stamm, A., Vantini, S. (2022) "Domain selection and familywise error rate for functional data: A unified framework" *Biometrics*, 107416, doi: 10.1111/biom.13669

Codazzi, L., Colombi, A., Gianella, M., Argiento, R., Paci, L., Pini, A. (2022) "Gaussian graphical modeling for spectrometric data analysis" *Computational Statistics & Data Analysis*, 107416, doi: 10.1016/j.csda.2021.107416

Rimalova, V., Fiserova, E., Menafoglio, A., Pini, A. (2022) "Inference for spatial regression models with functional response using a permutational approach" *Journal of Multivariate Analysis*, doi: 10.1016/j.jmva.2021.104893

Pini, A., Markström, J., Schelin, L. (2022):"Test–retest reliability measures for curve data: an overview with recommendations and supplementary code", *Sports Biomechanics* 21(2): 179–200. doi: 10.1080/14763141.2019.1655089

Pataky, T. C., Abramowicz, K., Liebl, D., Pini, A., Sjöstedt de Luna, S., Schelin, L. (2021) "Simultaneous inference for functional data in sports biomechanics: Comparing statistical parametric mapping with interval-wise testing", *AStA Advances in Statistical Analysis*, doi: 10.1007/s10182-021-00418-4

Schelin, L., Pini, A., Markström, J. L., Hager, C. K. (2021) "Test-retest reliability of entire time-series data from hip, knee and ankle kinematics and kinetics during one-leg hops for distance: Analyses using integrated pointwise indices", *Journal of Biomechanics* Jul 19, 124:110546. doi: 10.1016/j.jbiomech.2021.110546

Strandberg, J., Pini, A., Hager, C.K., Schelin, L. (2021) "Analysis Choices Impact Movement Evaluation: A Multi-Aspect Inferential Method Applied to Kinematic Curves of Vertical Hops in Knee-Injured and Asymptomatic Persons", *Frontiers in Bioengineering and Biotechnology* 9: 375. doi: 10.3389/fbioe.2021.645014

Lundtorp Olsen, N., Pini, A., Vantini, S. (2021) "False discovery rate for functional data", *TEST*. doi: 10.1007/s11749-020-00751-x

Pini, A., Dondossola, D., Ravaioli, M., Lonati, C., Maroni, L., Accardo, C., Germinario, G., Antonelli, B., Odaldi, F., Zanella, A., Siniscalchi, A., Cescon, M., Rossi, G. (2021) "The role of ex-situ hypothermic oxygenated machine perfusion and cold preservation time in extended criteria DCD and DBD", *Liver Transplantation*. doi: 10.1002/lt.26067

Lovato, I., Pini, A., Stamm, A., Taquet, M., Vantini, S., (2021): " Multiscale null hypothesis testing for network-valued data: analysis of brain networks of patients with autism", *Journal of the Royal Statistical Society C* 70(2): 372–397. doi: 10.1111/rssc.12463

Torti, A., Pini, A., Vantini, S. (2021): "Modelling time-varying mobility flows using function-on-function regression: analysis of a bike sharing system in the city of Milan", *Journal of the Royal Statistical Society C* 70(1): 226–247. doi: 10.1111/rssc.12456

Lovato, I. Pini, A., Stamm, A., Vantini, S. (2020): "Model-free Two-sample Test for Network-Valued Data", *Computational Statistics and Data Analysis* 144: 106896. doi: 10.1016/j.csda.2019.106896

Rimalova, V., Menafoglio, A., Pini, A., Pechanec, V., Fiserova, E. (2019):"A permutation approach to the analysis of spatio-temporal geochemical data in the presence of heteroscedasticity", *Environmetrics* 31(4). doi: 10.1002/env.2611.

Forlim, C. G., Finotelli, P., Dulio, P., Klock, L., Pini, A., Bächle,J., Stoll, L., Giemsa, P., Fuchs, M., Schoofs, N., Montag, C., Gallinat, J., Kühn, S. (2019): "New graph-theoretical-multimodal approach using temporal and structural correlations reveal disruption in the thalamo-cortical network in patients with schizophrenia", *Brain Connectivity*. doi: 10.1089/brain.2018.0654

Pini, A., Spreafico, L., Vantini, S., Vietti, A. (2018): "Multi-aspect local inference for functional data: analysis of ultrasound tongue profiles", *Journal of Multivariate Analysis* 170: 162–185. doi: 10.1016/j.jmva.2018.11.006.

Finotelli, P. Dipasquale, O., Costantini, I., Pini, A., Baglio, F., Baselli, G., Dulio, P., Cercignani, M. (2018): "Exploring resting-state functional connectivity invariants across the lifespan in healthy people by means of a recently proposed graph theoretical model", *PLoS ONE* 13(11). doi: 10.1371/journal.pone.0206567.

Pini, A., Stamm, A., Vantini, S. (2018): "Hotelling's T^2 in functional Hilbert spaces", *Journal of Multivariate Analysis* 167: 284–305. doi: 10.1016/j.jmva.2018.05.007.

Abramowicz, K.,De Luna, S., Häger, C., Pini, A., Schelin, L., Vantini, S. (2018): "Non-parametric inference for functional-on-scalar linear models applied to knee kinematic hop data after injury of the anterior cruciate ligament", *Scandinavian Journal of Statistics* 45(4): 1036–1061. doi: 10.1111/sjos.12333.

Cremona, M. A., Pini, A., Cumbo, F., Makova, K. D., Chiaromonte, F., Vantini, S. (2018): "IWTomics: testing high-resolution sequence-based "Omics" data at multiple locations and scales". *Bioinformatics* 34(13): 2289–2291. doi: 10.1093/bioinformatics/bty090.

Pini, A., Vantini, S., Colosimo, B. M., Grasso, M. (2017): "Domain-selective functional analysis of variance for supervised statistical profile monitoring of signal data". *Journal of the Royal Statistical Society C.* 67(1): 55–81. doi: 10.1111/rssc.12218.

Compagnoni, M., Pini, A., Canclini, A., Bestagini, P., Antonacci, F., Tubaro, S., Sarti, A. (2017): "A Geometrical-Statistical approach to outlier removal for TDOA measuments". *IEEE Transactions on Signal Processing.* 65(15): 3960–3975. doi: 10.1109/TSP.2017.2701311.

Pini, A., Vantini, S. (2017): "Interval-wise testing for functional data". *Journal of Nonparametric Statistics* 29(2): 407–424. doi: 10.1080/10485252.2017.1306627.

Campos-Sánchez, R. , Cremona, M. A., Pini, A., Chiaromonte, F., Makova, K. D. (2016): "Integration and fixation preferences of human and mouse endogenous retroviruses uncovered with functional data analysis". *PLOS Computational Biology.* 12(6): e1004956. doi:10.1371/journal.pcbi.1004956.

Pini, A., Vantini, S. (2016): "The interval testing procedure: a general framework for inference in functional data analysis". *Biometrics.* 73(3): 835–845. doi: 10.1111/biom.12476.

Hébert-Losier, K., Pini, A., Vantini, S., Strandberg, J., Abramowicz, K., Schelin, L., Häger, C. (2015): "One-leg hop kinematics 20 years following anterior cruciate ligament rupture: data revisited using functional data analysis". *Clinical biomechanics.* Dec;30(10):1153–1161. doi: 10.1016/j.clinbiomech.2015.08.010.

Book Chapters

Pini, A., Vantini, S. (2021): "Non-parametric inference for spatio-temporal data based on local null hypothesis testing for functional data", in J. Mateu, R. Giraldo (eds) *Geostatistical Functional Data Analysis*, Wiley.

Langthaler, P. B.; Pini, A. Bathke A. C. (2020): "Interval-Wise Testing of Functional Data Defined on Two-dimensional Domains" In M. La Rocca, B. Liseo, L. Salmaso (eds) *Nonparametric Statistics*, Springer.

Olsen, N., Pini, A., Vantini, S. (2020): "Local Inference for Functional Data Controlling the Functional False Discovery Rate.", in G. Aneiros, I. Horová, M. Husková, P. Vieu (eds) *Functional and High-Dimensional Statistics and Related Fields*, Springer.

Pini, A., Spreafico, L., Vantini, S., Vietti, A. (2017): "Differential interval-wise testing for local inference in Sobolev spaces", in G. Aneiros, E. Bongiorno, R. Cao, P. Vieu (eds) *Functional Statistics and Related Fields*, Springer.

Pini, A., Stamm, A., Vantini (2017): "Hotelling in wonderland", in G. Aneiros, E. Bongiorno, R. Cao, P. Vieu (eds) *Functional Statistics and Related Fields*, Springer.

Azzimonti, L., Cremona, M. A., Ghiglietti, A., Ieva, F., Menafoglio, A., Pini, A., Zanini, P. (2014): "BARCAMP technology foresight and statistics for the future", in A. M. Paganoni, P. Secchi (eds) *Advances in Complex Data Modeling and Computational Methods in Statistics*, Springer.

Abramowicz, K., Häger, C.,Hébert-Losier, K., Pini, A., Schelin, L., Strandberg, J., Vantini, S. (2014): "An inferential framework for domain selection in functional ANOVA", in E. Bongiorno, A. Goia, E. Salinelli and P. Vieu (eds) *Contributions in infinite-dimensional statistics and related topics*, Esculapio.

Ferrario, E., Pini, A. (2013): "Uncertainty analysis of a model of an energy distribution system with solar panel generation by time-varying data analysis, Monte Carlo simulation and fuzzy interval analysis", in R. Steenbergen, P. van Gelder, S. Miraglia, A. Vrouwenvelder (eds), *Safety, reliability and Risk Analysis: Beyond the Horizon*, CRC Press.

Editorial and Refereeing Activity

2024-present

Associate Editor of Journal of Computational and Graphical Statistics.

2024-present

Associate Editor of Statistics and Probability Letters.

2019-2023

Managing Editor of Statistics and Probability Letters.

2019

Co-editor of the book: G. Arbia, S. Peluso, A. Pini, G. Rivellini (eds): "Smart Statistics for Smart Applications Book of short papers SIS 2019". Pearson, Milan.

2017-present

Referee for: Journal of the Royal Statistical Society (series A, B and C), Journal of the American Statistical Association, Annals of Applied Statistics, Technometrics, Statistics and Computing, Statistics in Medicine, Journal of Multivariate Analysis, TEST, Statistica Sinica, Scandinavian Journal of Statistics, Advances in Data Analysis and Classification, Applied Stochastic Models in Business and Industry, Statistical Methods and Applications, Stat, Stats, Scientific Reports, Journal of Statistical Computation and Simulation, Scientific Reports.
Reviewer WOS profile: https://www.webofscience.com/wos/author/record/317849/

Conference Proceedings

J. Gardella, R. Carone, S. Ciardulli, N. Francescon, M. Freddi, E. Garlanda, A. Casa, A. Pini (2024), in A. Pollice, P. Mariani (eds): "Bayesian Models for Registration of Functional Data", *Methodological and Applied Statistics and Demography - SIS 2024, Short Papers, Plenary and Specialized Sessions*, Bari, June 17-20 2024.

A. Colombi, L. Paci, A. Pini (2024), in A. Pollice, P. Mariani (eds): "Learning block structures in Gaussian graphical models for spectrometric data analysis", *Methodological and Applied Statistics and Demography - SIS 2024, Short Papers, Plenary and Specialized Sessions*, Bari, June 17-20 2024.

N. Lundtorp Olsen, A. Pini, S. Vantini (2023), in P. Coretto, G. Giordano, M. La Rocca, M.L. Parrella, C. Rampichini (eds): "Nonparametric local inference for functional data defined on manifold domains", *Book of abstracts and short papers CLADAG 2023*, Salerno, September 11-23 2023.

M. Morvan, A. Pini, M. Giacofci, V. Monbet (2021), in C. Perna, N. Salvati, F. Schirripa Spagnolo (eds): "Block testing in covariance and precision matrices for functional data analysis", *Book of short papers SIS 2021*, Online, June 21-25 2021.

Codazzi, L., Colombi, A., Gianella, M., Argiento, R., Paci, L. Pini, A. (2020), in Pollice, A., Salvati, N., Schirripa Spagnolo, F. (eds): "Functional graphical model for spectrometric data analysis", *Book of short papers SIS 2020*.

Abramowicz, K., Pini, A., Schelin, L., Sjöstedt de Luna, S., Stamm, A., Vantini, S. (2019), in Arbia, G., Peluso, S., Pini, A., Rivellini, G. (eds): "Local inference on functional data based on the control of the family-wise error rate", *Smart Statistics for Smart Applications Book of short papers SIS 2019*, Milan, June 19-21 2019.

Olsen, N., Pini, A., Vantini, S. (2019), in Arbia, G., Peluso, S., Pini, A., Rivellini, G. (eds): "Local hypothesis testing for functional data: extending false discovery rate to the functional framework", *Smart Statistics for Smart Applications Book of short papers SIS 2019*, Milan, June 19-21 2019.

Torti, A., Pini, A., Vantini, S. (2019), in Arbia, G., Peluso, S., Pini, A., Rivellini, G. (eds): "A functional data analysis approach to study a bike sharing mobility network in the city of Milan", *Smart Statistics for Smart Applications Book of short papers SIS 2019*, Milan, June 19-21 2019.

Pini, A., Vantini, S. (2018): "Functional-on-functional linear models for the prediction of mobility flows", *Proceedings of the conference Statistics and Data Science, new developments for business and industrial applications*, Turin, May 24-25 2018.

Pini, A., Spreafico, L., Vantini, S., Vietti, A. (2017): "Towards cross-subject comparison of tongue profiles. A functional data analysis approach", *Proceedings of the 8th Meeting of Ultrasound Imaging for Linguistic Investigation*, Potsdam, October 4-6 2017.

Pini, A., Spreafico, L., Vantini, S., Vietti, A. (2017): "Permutation methods for multi-aspect local inference on functional data", in F. Greselin, F. Mola and M. Zenga (eds) *Cladag 2017 Meeting of the Classification and Data Analysis Group Book of Short Papers*, Milan, September 13-15 2017.

Lovato, I., Pini, A., Stamm, A., Vantini, S. (2017): "Non-parametric inference for network-valued data", in F. Greselin, F. Mola and M. Zenga (eds) *Cladag 2017 Meeting of the Classification and Data Analysis Group Book of Short Papers*, Milan, September 13-15 2017.

Pini, A., Stamm, A., Vantini, S. (2017): "A leap into functional Hilbert spaces with Harold Hotelling", in F. Greselin, F. Mola and M. Zenga (eds) *Cladag 2017 Meeting of the Classification and Data Analysis Group Book of Short Papers*, Milan, September 13-15 2017.

Pini, A., Stamm, A., Vantini, S. (2017): "Assessment of brain white matter integrity: perspectives from functional data analysis", *SIS 2017. Statistics and Data Science: new challenges, new generations. Proceedings of the Conference of the Italian Statistical Society*, Florence, June 28-30, 2017.

Pini, A., Spreafico, L., Vantini, S., Vietti, A. (2017): "Differential interval-wise testing for the inferential analysis of tongue profiles", *SIS 2017. Statistics and Data Science: new challenges, new generations. Proceedings of the Conference of the Italian Statistical Society*, Florence, June 28-30, 2017.

Pini, A., Stamm, A., Vantini, S. (2017): "Hotelling meets Hilbert: inference on the mean in functional Hilbert spaces", *SIS 2017. Statistics and Data Science: new challenges, new generations. Proceedings of the Conference of the Italian Statistical Society*, Florence, June 28-30, 2017.

Pini, A., Spreafico, L., Vantini, S., Vietti, A. (2016): "A non-parametric inferential framework for domain selection in functional data analysis", *Proceedings of the Third Conference of the International Society for Nonparametric Statistics 2016*, Avignon, Palace of the Popes, June 11-16, 2016.

Pini, A., Spreafico, L., Vantini, S., Vietti, A. (2016): "Functional data analysis of tongue profiles", *Proceedings of the 48-th Scientific Meeting of the Italian Statistical Society 2016*, Fisciano, June 08-10, 2016.

Vietti, A., Pini, A., Vantini, Galatà, S. V., Spreafico, L. (2015): "A functional analysis of ultrasound data", *Ultrafest VII*, Hong-Kong.

Pini, A., Stamm, A., Vantini, S. (2015): "Inference in functional Hilbert spaces generalizing the Hotelling's T^2", in Schimek, MG, Svendova, V and Bloice, MD (eds) *Book of Abstracts ISNPS Meeting "Biosciences, Medicine, and novel Non-Parametric Methods"*.

Abramowicz, K., De Luna, S., Häger, C., Pini, A., Schelin, L., Vantini, S. (2015): "Permutation-based inference of functional-on-scalar linear models: analysis of human knee kinematics", in Schimek, MG, Svendova, V and Bloice, MD (eds) *Book of Abstracts ISNPS Meeting "Biosciences, Medicine, and novel Non-Parametric Methods"*.

Pini, A., Vantini, S. (2014): "Hypothesis testing in functional data analysis: a non-parametric approach", *Proceedings of the 47-th Scientific Meeting of the Italian Statistical Society 2014*, Cagliari, June 11-13, 2014.

Abramowicz, K., Häger, Hébert-Losier, K., Pini, A., Schelin, L., Strandberg, J., Vantini, S. (2014): "Anterior cruciate ligament rupture: functional data analysis of knee motion", *Proceedings of the 47-th Scientific Meeting of the Italian Statistical Society 2014*, Cagliari, June 11-13, 2014.

Pini, A., Vantini, S. (2013): "The interval-wise control of the family-wise error rate for testing functional data", in T. Minerva, I. Morlini, F. Palumbo (eds) *Cladag 2013 9th Meeting of the Classification and Data Analysis Group Book of Abstracts* , Modena, CLEUP, 2013.

Pini, A., Vantini, S. (2013): "Inference for functional data: the interval-wise control of the family-wise error rate", *Proceedings of S. Co. 2013 Complex Models and Computational Intensive Methods for Estimation and Prediction Conference*, Milan, September 9-11, 2013.

Pini, A., Vantini, S. (2012): "Testing phase and amplitude variability in functional data analysis: a hierarchical permutation test approach", *Proceedings of the 46th Scientific Meeting of the Italian Statistical Society 2012*, Roma, June 20-22, 2012.

Other publications

Pini, A. (2014): "Global and component-wise distribution-free inference for functional data: methods and applications"
PhD Thesis, Politecnico di Milano.

Pini, A. (2010): "Clustering di dati funzionali georeferenziati: studi di simulazione e analisi del database NASA Earth Surface Meteorology and Solar Energy".
Master Degree Thesis, Politecnico di Milano.

R packages

Cremona, M. A., Pini, A., Chiaromonte, F., Vantini, S. (2016). **IWTomics**: Interval-wise testing for omics data. R package version 0.99.11.
https://bioconductor.org/packages/3.5/bioc/html/IWTomics.html

Giarratano, E., Pini, A., Vantini, S. (2016). **tongue.analysis**: Functional inferential analysis for tongue profiles. Available upon request.

Stamm, A., Pini, A., Vantini, S. (2016). **fdahotelling**: A package of Hotelling-inspired statistical tests for functional data. Available upon request.

Pini, A., Vantini, S. (2014). **fdatest**: Interval testing procedure for functional data. R package version 2.1. http://CRAN.R-project.org/package=fdatest

2024   **18ᵗʰ International Joint Conference CFE-CMStatistics**
"Block testing in precision matrix for functional data analysis",
A. Pini*, M. Morvan, M. Giacofci, V. Monbet
Hybrid: London, UK and online, December 14–16 2024.

ISNPS 2024, 6ᵗʰ International Symposium of Nonparametric Statistics
"Block testing in precision matrix for functional data analysis",
A. Pini*, M. Morvan, M. Giacofci, V. Monbet
Braga, Portugal, June 25–29 2024.

Crash Course on Functional Data Analysis and Machine Learning of Complex Data: Techniques and Applications
"Inference for functional data",
A. Pini*
Copenhagen, Denmark, April 17–19 2024.

2023   **NORDSTAT 2023**
"Local inference for the mean and covariance of functional data",
A. Pini*
Gotheborg, Sweden, June 19–22 2023.

2023   **16ᵗʰ Conference of the ERCIM WG on Computational and Methodological Statistics**
"Local inference for functional data defined on manifold domains",
A. Pini*, N. Londtorp Olsen, S. Vantini
Berlin, Germany, December 16–18 2023.

2023   **CLADAG 2023, 14ᵗʰ Scientific Meeting of the CLAssification and Data Analysis Group of the Italian Statistical Society**
"Local inference for functional data defined on manifold domains",
A. Pini*, N. Londtorp Olsen, S. Vantini
Salerno, Italy, September 11–13 2023.

2022   **IFCS 2022, Classification and Data Science in the Digital Age**
"The control of false discovery rate for functional data",
N. Olsen, A. Pini*, S. Vantini
Porto, Portugal, July 19–23 2022.

ISNPS 2022, International Symposium of Nonparametric Statistics
"Null hypothesis testing for network-valued data with a multiscale approach: analysis of brain networks of patients with autism",
A. Pini*, I. Lovato, A. Stamm, S. Vantini
Paphos, Cyprus, June 20–24 2022.

2021   **14ᵗʰ Conference of the ERCIM WG on Computational and Methodological Statistics**
"False discovery rate for functional data",
A. Pini*, N. Lundtorp Olsen, S. Vantini
Hybrid: London, UK and online, December 18–20 2021.

2019   **Young business and indistrial statisticians workshop on recent advances in data science and business analytics**
"Functional linear models for monitoring and prediction of profiles",

A. Pini*

Istanbul, Turkey, September 25–28 2019.

2019 Final CRoNoS meetings and Workshop on Multivariate Data Analysis
"The control of the false discovery rate for functional data defined over manifold domains",
N. Olsen, A. Pini*, S. Vantini
Lymassol, Cyprus, April 14–16 2019.

2018   **Advances in Functional Data Analysis: Cluster, Location and Shape**
"An inferential approach for domain selection and profile monitoring of functional data",
A. Pini*, S. Vantini, B.M. Colosimo, M. Grasso
Rennes, October 24–26 2018.

2018 CRoNoS Workshop on Functional Data Analysis
"The control of family-wise error rate for functional data: a unified framework",
K. Abramowicz, A. Pini*, L. Schelin, S. Sjostedt de Luna, A. Stamm, S. Vantini
Iasi, August 31 –September 2 2018.

4th Conference of the International Society for Nonparametric Statistics
"Local inference for functional data controlling the family-wise error rate on domain subsets",
K. Abramowicz, A. Pini*, L. Schelin, S. Sjostedt de Luna, A. Stamm, S. Vantini
Salerno, June 11–15 2018.

2017   **10th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2017)**
"Local inference for functional on scalar mixed models",
A. Pini*, H. Sorensen, A. Tolver, S. Vantini
London, December 16–18 2017.

11th Scientific Meeting of the CLAssification and Data Analysis Group of the Italian Statistical Society
"Permutation methods for multi-aspect local inference on functional data",
A. Pini*, S. Vantini, L. Spreafico and A. Vietti
Milan, September 13–15, 2017.

SIS 2017. Statistics and Data Science: new challenges, new generations.
"Assessment of brain white matter integrity: perspectives from functional data analysis",
A. Pini, A. Stamm*, S. Vantini
Florence, June 28–30, 2017.

2016   **9th International Conference of the ERCIM WG on Computational and Methodological Statistics.**
"Partial differential interval-wise testing for the functional data analysis of tongue profiles",
A. Pini*, S. Vantini, L. Spreafico and A. Vietti
Seville, December 9–11, 2016.

Workshop on Functional Data Analysis
"Interval-wise testing: theory and two case studies",
A. Pini*, S. Vantini,
Copenhagen, June 26, 2016.

Statistical Seminar at the University of Copenhagen
"Interval-wise testing procedure for domain selection in functional data analysis",
A. Pini*, L. Spreafico, S. Vantini, A. Vietti,

Copenhagen, January 20, 2016.

2015

8th International Conference of the ERCIM Working Group on Computing & Statistics (ERCIM 2015),
"Inference for functional data using the adjusted p-value function",
A. Pini, S. Vantini*,
London, December 12-14, 2015.

ISNPS Meeting "Biosciences, Medicine, and novel Non-Parametric Methods",
"Permutation-based inference of functional-on-scalar linear models: analysis of human knee kinematics",
K. Abramowicz, S. De Luna, C. Häger, A. Pini, L. Schelin, S. Vantini*,
Graz, July 12-15, 2015.

2014

7th International Conference of the ERCIM Working Group on Computing & Statistics (ERCIM 2014),
"A domain-selective functional ANCOVA for the study of knee movement",
K. Abramowicz, S. De Luna, A. Pini*, L. Schelin, S. Vantini,
Pisa, December 6-8, 2014.

47th Scientific Meeting of the Italian Statistical Society,
"Hypothesis testing in functional data analysis: a non-parametric approach",
A. Pini, S. Vantini*,
Università degli Studi di Cagliari. Cagliari, Italy, June 11-13, 2014.

Joint Statistical Seminars at Umeå University,
"A domain selective ANCOVA framework for functional data",
A. Pini*,
Umeå University. Umeå, Sweden, April 15, 2013.

2013

6th International Conference of the ERCIM Working Group on Computing & Statistics (ERCIM 2013),
"The interval wise error rate for functional data: the interval testing procedure in action",

A. Pini, S. Vantini*,
London, December 14-16, 2013.

Functional Data Analysis Workshop,
"The interval testing procedure: a novel inferential tool for functional data",
A. Pini*, S. Vantini,
Umeå University. Umeå, Sweden, November 6, 2013.

Risk and Uncertainty Modelling School,
"Uncertainty analysis of solar energy generation by time-varying data modeling, Monte Carlo simulation and fuzzy interval analysis",
E. Ferrario, A. Pini*,
Como, Italy, September 2, 2013.

Contributed talks at conferences and workshops

*indicates the speaker

2021

50th conference of the Italian Statistical Society (SIS 2021)
"Block testing in covariance and precision matrices for functional data analysis"
M. Morvan, A. Pini*, M. Giacofci, V. Monbet
Online, June 23-25 2021.

5th International Workshop on Functional and Operatorial Statistics (IWFOS 2021)

"Permutation approach to testing for effect of covariates in the spatial regression model with functional response"

E. Fisserovaa, V. Rimalovaa, A. Menafoglio, A. Pini*

Online, June 21-25 2021.

2019   **COSTNET 19 conference**

"Statistical comparison of two groups of brain networks: an application to connectivity of patients with autism"

I. Lovato, A. Pini*, A. Stamm, M. Taquet, S. Vantini

Bilbao, October 9-11 2019.

European Meeting of Statisticians (EMS)

"Measuring reliability of functional data: an application to human movements"

A. Pini*, J. Markström, L. Schelin

Palermo, July 22-27 2019.

Smart Statistics for Smart Applications

"Local inference on functional data based on the control of the family-wise error rate"

K. Abramowicz, A. Pini*, L. Schelin, S. Sjöstedt de Luna, A. Stamm, S. Vantini

Milan, June 19-21 2019.

Smart Statistics for Smart Applications

"Local hypothesis testing for functional data: extending false discovery rate to the functional framework"

N. Olsen, A. Pini, S. Vantini*

Milan, June 19-21 2019.

Smart Statistics for Smart Applications

"A functional data analysis approach to study a bike sharing mobility network in the city of Milan"

A. Torti*, A. Pini, S. Vantini

Milan, June 19-21 2019.

2018   **Statistics and Data Science, New Developments for Business and Industrial Applications**

"Functional-on-functional linear models for the prediction of mobility flows",

A. Pini*, S. Vantini

Turin, May 24–25, 2018.

2017   **8th Meeting of Ultrasound Imaging for Linguistic Investigation**

"Towards cross-subject comparison of tongue profiles. A Functional Data Analysis approach",

A. Pini*, L. Spreafico, S. Vantini, A. Vietti

Potsdam, October 4–6, 2017.

11th Scientific Meeting of the CLAssification and Data Analysis Group of the Italian Statistical Society

"A leap into functional Hilbert spaces with Harold Hotelling",

A. Pini, A.Stamm*, S. Vantini

Milan, September 13–15, 2017.

11th Scientific Meeting of the CLAssification and Data Analysis Group of the Italian Statistical Society

"Non-parametric inference for network-valued data",

I. Lovato*, A. Pini, A.Stamm, S. Vantini
Milan, September 13–15, 2017.

SIS 2017. Statistics and Data Science: new challenges, new generations.
"Differential interval-wise testing for the inferential analysis of tongue profiles",
A. Pini*, L. Spreafico, S. Vantini, A. Vietti,
Florence, June 28–30, 2017.

SIS 2017. Statistics and Data Science: new challenges, new generations.
"Hotelling meets Hilbert: inference on the mean in functional Hilbert spaces",
A. Pini, A. Stamm, S. Vantini*,
Florence, June 28–30, 2017.

International Workshop on Functional and Operatorial Statistics.
"Differential interval-wise testing for local inference in Sobolev spaces",
A. Pini*, L. Spreafico, S. Vantini, A. Vietti,
A Coruna, June 15–17, 2017.

International Workshop on Functional and Operatorial Statistics.
"Functional data analysis of Omics data: how does the genomic landscape influence integration and fixation of endogenous retroviruses?",
M.A. Cremona*, R. Campos-Saánchez, A. Pini, S. Vantini, K.D. Makova and F. Chiaromonte,
A Coruna, June 15–17, 2017.

2016   **Third Conference of the International Society for Nonparametric Statistics,**
"A non-parametric inferential framework for domain selection in functional data analysis",
A. Pini*, L. Spreafico, S. Vantini, A. Vietti,
Avignon, June 11-16 2016.

48th Scientific Meeting of the Italian Statistical Society,
"Functional data analysis of tongue profiles",
A. Pini*, L. Spreafico, S. Vantini, A. Vietti,
Fisciano, June 08-10 2016.

2015   **ISNPS Meeting "Biosciences, Medicine, and novel Non-Parametric Methods",**
"Inference in functional Hilbert spaces generalizing the Hotelling's T^2",
K. Abramowicz, S. De Luna, C. Häger, A. Pini*, L. Schelin, S. Vantini,
Graz, July 12-15, 2015.

2014   **47th Scientific Meeting of the Italian Statistical Society,**
"Anterior cruciate ligament rupture: functional data analysis of knee motion",
K. Abramowicz, C. Häger, K. Hébert-Losier, A. Pini*, L. Schelin, J. Strandberg, S. Vantini,
Università degli Studi di Cagliari. Cagliari, Italy, June 11-13, 2014.

2013   **ESREL 2013 - European Safety and Reliability Conference,**
"Uncertainty analysis of a model of an energy distribution system with solar panel generation by time-varying data analysis, Monte Carlo Simulation and fuzzy interval analysis",
E. Ferrario*, A. Pini,
Amsterdam, September 29 - October 2 , 2013.

8th International Meeting of the Classification and Data Analysis Group of the Italian Statistical Society (CLADAG),
"The interval-wise control of the family-wise error rate for testing functional data",
A. Pini*, S. Vantini,

Universit'a di Modena e Reggio Emilia. Modena, Italy, September 18-20, 2013.

S. Co. 2013 Complex Models and Computational Intensive Methods for Estimation and Prediction,
"Inference for functional data: the interval-wise control of the family-wise error rate",
A. Pini*, S. Vantini,
Politecnico di Milano. Milan, Italy, September 9-11, 2013.

8th International Conference on Multiple Comparison Procedures,
"Interval-wise control of the family wise error rate: a new inferential procedure in functional data analysis",
A. Pini*, S. Vantini,
Southampton University. Southampton, UK, July 8-11, 2013.

Young Statisticians' Meeting,
"Interval testing procedure for functional data",
A. Pini*, S. Vantini,
Imperial College. London, UK, July 4-5, 2013.

2012 | **MOX Seminar,**
"Hierarchical permutation tests for functional data",
A. Pini*,
Politecnico di Milano. Milano, Italy, October 4, 2012.

46th Scientific Meeting of the Italian Statistical Society,
"Testing phase and amplitude variability in functional data analysis: a hierarchical permutation test approach",
A. Pini*, S. Vantini,
Università la Sapienza. Roma, Italy, June 20-22, 2012.

Ph. D. Thesis Co-supervision

Co-supervisor of Lovato, I.: "Nonparametric inference for network-valued data". Ph. D. in mathematics, Università degli Studi di Pavia. Supervisor: Vantini, S. Co-supervisor: Pini, A.

Co-supervisor of Olsen, N.: "Statistical analysis of functional data with multivariate domain and response". Ph. D. in mathematics, University of Copenhagen. Supervisor: Markussen, B. Co-supervisors: Pini, A., Vantini, S.

M. Sc. Thesis Supervision

Supervisor of: Anselmi, F. (2022), Deho, A. (2022), Macchi, V. (2022), Pacini, M.E. (2022), Pella , C. (2022), Campiotti, S. (2022), M. Sc. in Data Analytics for Business, Università Cattolica del Sacro Cuore

Supervisor of: Baragiola E. (2024), Anselmi, F. (2022), Deho, A. (2022), Macchi, V. (2022), Pacini, M.E. (2022), Pella, C. (2022), Campiotti, S. (2022), Massolini A. (2022), Ottelli I. (2022), Martucci, F. (2022), Locatelli M. (2022), Bruschetta, P. (2022), Marchetti, C. (2021), Vigiani, T. (2021), Doldi, A. (2021), Terreo, A. (2021), Checchin, M. (2021), Visinoni, S. (2020), Moltini, S. (2020), Mainieri, M. (2020), Piacentini, N. (2020), Pugno, D. (2020), Quattrocchi, D. (2020), Ranzato, A. (2020), Grossi, G.R. (2020), Galletti, E. (2019), Gaiera, S. (2019), Bassi, C. (2019), Mangiarotti, S. (2019), Guaitoli, C. A. (2019), M. Sc. in Statistical and Actuarial Sciences - data analytics for business and economics, Università Cattolica del Sacro Cuore

Co-supervisor of Torti, A. (2018), Suaria, M. (2018), Pozzari, A. (2017), Battagliola, M. L. (2017), Castelnovo, S. (2017), Ghidelli, M. (2017), Castellini, M. (2017), Galmiche, J. (2017), Assi, R. (2016), Bardelli, C. (2016), Giarratano, E. (2016), Serafini, A. (2016), Lamblin, M. (2015). M. Sc. in mathematical engineering, Politecnico di Milano.

Research Grants with Competitive Selection Calls

Towards a more extensive interpretation of data in human movement disorders - innovative statistical approaches (2017 - 2020)
Funding Agency: Vetenskapsradet - Swedish Research Council
Partners: Umea University.
Role in the research project: participant.

Large P Small N (Nov 2011 - Dec 2013)
Funding Program: 5 per 1000 Junior - 2010
Funding Agency: Politecnico di Milano
Partners: Politecnico di Milano, University of Rennes, Emory University.
Role in the research project: participant.

Participation to Research Projects Funded by Private Companies

Sviluppo di modelli fisici e computazionali per Cyber Tyre II (Nov. 2016 - Apr. 2017)
Partners: Politecnico di Milano. Departments: Electronic, Information and Bioengineering; Management, Economics and Industrial Engineering; Mathematics; Mechanics.
Contractor: Pirelli Tyre.
Role in the project: participant.

Sviluppo di modelli fisici e computazionali per Cyber Tyre I (Mar. 2016 - Oct. 2016)
Partners: Politecnico di Milano. Departments: Electronic, Information and Bioengineering; Management, Economics and Industrial Engineering; Mathematics; Mechanics.
Contractor: Pirelli Tyre.
Role in the project: participant.

Ongoing scientific collaborations

Department of Mathematics, Université de Rennes I (France).
Department of Mathematics, Politecnico di Milano, Milan (Italy).
Department of Mathematical Sciences, University of Copenhagen, Copenhagen (Denmark).
Department of Mathematics and Mathematical Statistics, Umeå University, Umeå (Sweden).

Teaching

Teacher of "Computational Statistics 2",
Ph. D. in Economics and Statistics - ECOSTAT, Università degli Studi Milano Bicocca, AcYrs : 2018/19, 2019/20, 2020/21, 2021/22, 2023/24

Teacher of "Statistical Learning",

M. Sc. in Data Analytics for Business and Economics, Università Cattolica del Sacro Cuore,
AcYrs : 2018/19, 2019/20, 2020/21, 2021/22, 2023/24, 2024/25

Teacher of "Statistics",
B. Sc. in Economics and Management, Università Cattolica del Sacro Cuore,
AcYrs: 2020/21, 2021/22, 2023/24, 2024/25

Teacher of "Applied Statistics",
B. Sc. in Economics and Management, Università Cattolica del Sacro Cuore,
AcYrs: 2017/18, 2018/19, 2019/20

Teaching assistant of "Statistics",
B. Sc. in Economics and Management, Università Cattolica del Sacro Cuore,
AcYr: 2018/19, 2019/20, 2020/21

Series of lectures on simulation of Poisson processes for the course "Computer Intensive Statistical Methods",
M. Sc. in Computational Science and Engineering, Umeå University,
AcYr : 2015/16

Series of lectures on permutation tests for the course "Applied Statistics",
M. Sc. in Mathematical Engineering, Politecnico di Milano,
AcYr s: 2013/14, 2014/15, 2015/16, 2016/17

Teaching assistant of "Probability and Mathematical Statistics",
B.Sc. in Management Engineering, Politecnico di Milano,
AcYr s: 2012/13, 2014/15, 2015/16, 2016/17

Laboratory activities of "Probability and Mathematical Statistics",
B.Sc. in Management Engineering, Politecnico di Milano,
AcYrs : 2012/13, 2014/15, 2015/16

Laboratory activities of "Statistics",
B.Sc. in Energy Engineering, Politecnico di Milano,
AcYr: 2011/12

Tutoring for laboratory activities of "Statistics",
B.Sc. in Energy Engineering, Politecnico di Milano,
AcYrs : 2011/12, 2012/13, 2013/14, 2015/16

Scientific and academic activities

Member of the local organizing committee of the conference "Smart Statistics for Smart Applications", June 19–21, 2019, Milan (Italy).

Organizer of the series of scientific seminars in Statistics, Department of Statistical Sciences, Università Cattolica del Sacro Cuore. Yrs 2020-now.

Member of joint committee teachers-students (commissione paritetica) for the evaluation of the M.Sc. Data Analytics for Business, Università Cattolica del Sacro Cuore. Yrs 2021-now.

Member of the organizing committee of the BarCamp "Technology Foresight and Statistics for the Future", September 2, 2013, Milan (Italy).

Meet me Tonight - Notte dei Ricercatori, Hard Math Café, Milano (Italy). Yrs: 2014, 2013, 2012.

Last update: October 11, 2024

Fellowships, scholarships and awards

2023 — Selected JRSS-C 2021 article for presentation at the Royal Statistical Society International Conference 2023: Lovato, I., Pini, A., Stamm, A., Taquet, M., Vantini, S. (2021): "Multiscale null hypothesis testing for network-valued data: Analysis of brain networks of patients with autism" Journal of the Royal Statistical Society. Series C: Applied Statistics, 70(2), pp. 372–397. The article was selected by the two joint editors in chief of JRSS- C for presentation at the special session "Papers from the Journals" which contains one paper from JRSS-A, one from JRSS-B, and one from JRSS-C among all articles published in 2021.

Switch2Product: award for the best innovative projects. $\simeq$ 200 participants, 20 selected projects. Program sponsored by Politecnico di Milano, Deloitte, PoliHub.

2017 — Post-doctoral fellowship: "Towards a more extensive interpretation of data in human movement disorders - innovative statistical approaches." at Dept. of Statistics, Umeå School of Business and Economics, Umeå University, Umeå Sweden.

2016 — Erasmus+ EU grant for teaching mobility to Umeå University, Umeå Sweden.

2015 — Post-doctoral fellowship: "Inferenza permutazionale per dati funzionali" at Dept. of Mathematics, Politecnico di Milano.

2014 — Scholarship for the international mobility of PhD candidates.

2012 — Research fellowship by Large p small n project: "Sviluppo di metodi inferenziali parametrici e non parametrici per l'analisi di dati ad alta dimensionalità" at Dept. of Mathematics, Politecnico di Milano.

"Best Experience in Science Transfer - First Edition", award to the Hard Math Café Team, 1st classified, 36 applications. Best activity of the project Meet Me Tonight.

2011 — "Premio di studio Giovanni Zampese", scholarship by Cassa rurale ed artigiana di Cantú.

2006 — Erasmus mobility scholarship for student mobility to Ecole Centrale Paris, Paris (France).

Personal skills and competences

Mother tongue — **Italian**

Other language(s) — **English, French, Spanish**

Self-assessment
European level[*]

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user
C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user
B2 Independent user	B2 Independent user	B1 Independent user	B1 Independent user	A2 Basic user

English

French

Spanish

[*]*Common European Framework of Reference* (CEF) level

Certificates — English: TOEFL CBT 250/300

French: Diplôme Supérieur Langue et Culture Françaises 152/200, mention Bien

Computer skills and competences — **Statistical Analysis, Modeling and Programming:** R, Minitab, WinBUGS, Matlab, C/C++, Python.

Misc: MS Windows systems. MS Office Suite. Latex.

Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli artt. 46 e 47 del D.P.R. 445/2000.