

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

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

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

- 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., Paeleari, C., Cespiati, A., Todaro, S., Cattaneo, E., Di Felicianantonio, 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., Cernignani, 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/sjost.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 measurements”. *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 Non-parametric 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 retro-viruses 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 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

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. Giacomci, 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 spectro-metric 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.

Other publications

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.

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>

Invited talks at conferences and workshops

*indicates the speaker
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

	<p>“Local inference for functional data defined on manifold domains”, A. Pini*, N. Londtorp Olsen, S. Vantini Salerno, Italy, September 11–13 2023.</p>
2022	<p>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.</p> <p>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.</p>
2021	<p>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.</p>
2019	<p>Young business and industrial 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.</p> <p>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.</p>
2018	<p>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.</p> <p>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.</p> <p>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.</p>
2017	<p>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.</p> <p>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”,</p>

	<p>A. Pini*, S. Vantini, L. Spreafico and A. Vietti Milan, September 13–15, 2017.</p> <p>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.</p>
2016	<p>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.</p> <p>Workshop on Functional Data Analysis “Interval-wise testing: theory and two case studies”, A. Pini*, S. Vantini, Copenhagen, June 26, 2016.</p> <p>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.</p>
2015	<p>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.</p> <p>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.</p>
2014	<p>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.</p> <p>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.</p> <p>Joint Statistical Seminars at Umeå University, “A domain selective ANCOVA framework for functional data”, A. Pini*, Umeå University. Umeå, Sweden, April 15, 2013.</p>
2013	<p>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*,</p>

Contributed talks at conferences and workshops

*indicates the speaker

2021

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.

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. Giacomini, 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. Menaoglio, 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”

	<p>A. Torti*, A. Pini, S. Vantini Milan, June 19-21 2019.</p>
2018	<p>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.</p>
2017	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
2016	<p>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.</p> <p>48th Scientific Meeting of the Italian Statistical Society, “Functional data analysis of tongue profiles”, A. Pini*, L. Spreafico, S. Vantini, A. Vietti,</p>

	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, Università 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)

Ongoing scientific collaborations

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.

Department of Mathematics, Université de Rennes I (France).
Department of Mechanics, Politecnico di Milano, Milan (Italy).
Department of Electronic, Information and Bioengineering, Politecnico di Milano, Milan (Italy).
Department of Mathematical Sciences, University of Copenhagen, Copenhagen (Denmark).
Department of Mathematics and Mathematical Statistics, Umeå University, Umeå (Sweden).
Alps - Alpine Laboratory of Phonetic Sciences, Free University of Bozen/Bolzano, Bolzano (Italy).
Department of Statistics, Pennsylvania State University, University Park, PA (United States).

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

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

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

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

Mamber 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.

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. |
| 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)

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

Personal skills and competences

Mother tongue

Other language(s)

*Self-assessment
European level^(*)*

English

French

Spanish

Certificates

Computer skills and competences

Italian

English, French, Spanish

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

^(*) Common European Framework of Reference (CEF) level

English: TOEFL CBT 250/300

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

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.