PERSONAL DATA

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CURRENT APPOINTMENT

• Associate Professor in Statistics (STAT-01/A) at the Department of Statistical Sciences "Paolo Fortunati", University of Bologna, since 14 April 2025.

PAST APPOINTMENTS

- Senior Assistant Professor (RTD-B) in Statistics (SECS-S/01) at the Department of Statistical Sciences "Paolo Fortunati", University of Bologna, since 14 April 2022. On December 1, 2023, achievement of the National Scientific qualification as associate professor in the Italian higher education system, in the call 2021/2023 for the disciplinary field of 13/D1 Statistics (Academic Recruitment Field 13/D Statistics and mathematical methods for decisions): https://asn21.cineca.it/pubblico/miur/esito/13%252FD1/2/6.
- Junior Assistant Professor (RTD-A) in Statistics (SECS-S/01) at the Department of Statistical Sciences "Paolo Fortunati", University of Bologna, 11 May 2020-13 April 2022.
- Visiting Assistant Professor at the Statistics Department of UC Davis, A.Y. 2019/2020.
- Post-doctoral Researcher in Statistics (SECS-S/01) at the Department of Statistical Sciences "Paolo Fortunati", University of Bologna, 1 October 2018 30 September 2019, with a research project entitled "Regularized dynamic factor model estimation via low rank plus sparse decomposition", supervisor Prof. Silvia Bianconcini.

PARTICIPATION IN RESEARCH PROJECTS

- April 2024: UNIBO competitive call "Attività di collaborazione con università del Nord America": proposer of the awarded research project for the mobility scheme of Prof. Alexander Aue (UC Davis) to the University of Bologna in June 2025 and two early-career researchers outgoing to UC Davis in Fall 2025 Budget: 8650 €.
- March 2024: "Digitalizzazione e competenze digitali. Verso un modello di misurazione al termine dell'obbligo scolastico" (DIGCOMP.MIS): research call from INVALSI (Istituto Nazionale per la VALutazione del Sistema educativo di Istruzione e formazione), won with Milano Bicocca and Napoli Parthenope. Component of the UNIBO team. Responsible of UNIBO unit: Prof.ssa Mariagiulia Matteucci.
- 2022-2024: Component of the PRIN project: "UNIVERS-ITA. L'italiano scritto degli studenti universitari: quadro sociolinguistico, tendenze tipologiche, implicazioni didattiche". Responsible: Prof. Nicola Grandi.

Related publications:

- Nicola Grandi, Matteo Farnè e Matteo Pascoli (2025), "L'italiano scritto all'università: prime elaborazioni statistiche di dati linguistici e sociobiografici", in Nicola Grandi (a cura di), L'italiano scritto degli studenti universitari. Quadro sociolinguistico, tendenze tipologiche, implicazioni didattiche, Milano, Franco Angeli (collana Materiali linguistici).
- 2018-2019: Win of a Research Scholarship entitled "British Academy "from the Italian Lincei National Academy of Sciences (5000 € for a five-month research stay at the London School of Economics Statistics Department), for the project "An algebraic estimator for large spectral density matrices", under the supervision of Prof. Matteo Barigozzi.

Related publications:

- Matteo Barigozzi, Matteo Farnè (2022), "*An algebraic estimator for large spectral density matrices*". https://www.tandfonline.com/doi/full/10.1080/01621459.2022.2126780 Journal of the American Statistical Association. DOI: 10.1080/01621459.2022.2126780
- 2017-2019: Air Force Office of Scientific Research award number FA9550-17-1-0103: Big data covariance estimation: https://apps.dtic.mil/sti/pdfs/AD1106499.pdf. Principal Investigator: Prof. Angela Montanari.

Related publications:

- Matteo Farnè, Angela Montanari (2020), "A large covariance matrix estimator under intermediate spikiness regimes". https://www.sciencedirect.com/science/article/pii/S0047259X19301216 Journal of Multivariate Analysis, 176:104577.
- Matteo Farnè, Angela Montanari, "Large factor model estimation by nuclear norm plus 11 norm penalization" (2024). https://www.sciencedirect.com/science/article/pii/S0047259X23000908 Journal of Multivariate Analysis, 199, 105244.

TEACHING ACTIVITY

At Alma Mater Studiorum – University of Bologna:

First cycle and Second cycle degrees:

- As Assistant Professor:
- A.Y 2024/2025:
 - Big Data and Analytics (10 CFU, 60 hours), in English, Second cycle degree in in Statistics, Economics and Business, curriculum Business Analytics.
 - Statistical methods for data mining (10 CFU, 60 hours) in Italian, Department of Statistical Sciences, Second cycle degree in Statistics, Economics and Business, curriculum Marketing and Market Research.
- A.Y 2023/2024, A.Y. 2022/2023:
 - Big Data and Analytics (5 CFU, 30 hours), in English, Second cycle degree in in Statistics, Economics and Business, curriculum Business Analytics.
 - Statistical methods for data mining (10 CFU, 60 hours) in Italian, Department of Statistical Sciences, Second cycle degree in Statistics, Economics and Business, curriculum Marketing and Market Research.

- A.Y. 2021/2022:
 - Statistics for Data Analysis (6 CFU, 40 hours), in Italian, Department of Economics, Second cycle degree in Economics and Profession.
 - Statistical methods for data mining (5 CFU, 30 hours) in Italian, Department of Statistical Sciences, Second cycle degree in Statistics, Economics and Business, curriculum Marketing and Market Research.
- A.Y. 2020/2021:

Statistics (Module 1, 4 CFU, 30 hours), in English, Department of Economics, First cycle degree in **Economics and Finance**.

- Statistical methods for data mining (5 CFU, 30 hours), in Italian, Department of Statistical Sciences, Second cycle degree in Statistics, Economics and Business, curriculum Marketing and Market Research.
- A.Y. 2019/2020:
 - Laboratory of Data Analysis (4 CFU, 30 hours), in Italian, Department of Statistical Sciences, First cycle degree in Statistical Sciences.
 - Statistical methods for data mining (5 CFU, 30 hours), in Italian, Department of Statistical Sciences, Second cycle degree in Statistics, Economics and Business, curriculum Marketing and Market Research.

PhD degree:

- A.Y. 2024/2025, A.Y. 2023/2024:
 - "Statistical Methods for Climate Change Analysis" (Module 1, 12 hours), PhD in Future Earth, Climate Change and Societal Challenges.
- A.Y. 2018/2019:
 - Advanced Statistics II (Time Series Analysis, 20 hours), University of Bologna, School of Political Sciences, Forlì Campus, Doctorate in Political and Social Sciences.

As Adjunct Professor:

First cycle and Second cycle degrees:

- A.Y. 2018/2019, A.Y. 2017/2018:
 - Statistical tools for forecasting (8 CFU, 40 hours), in English, School of Political Sciences, Second cycle degree in International Relations, Curriculum "Forecasting, innovation and change".
- A.Y. 2016/2017:
 - Longitudinal data analysis (8 CFU), Module 2 (20 hours), in Italian, School of Economics, Management and Statistics, First cycle degree in Statistical Sciences.
- A.Y. 2015/2016:
 - Statistics for Data Analysis (8 CFU), Module 2 (20 hours), in Italian, School of Economics, Management and Statistics, Second cycle degree in Economics and Profession.

At UC Davis:

- As <u>Visiting Assistant Professor</u>:

First cycle degrees:

• A.Y. 2019/2020:

Courses taught in the Fall Term:

- STA 141A (Fundamentals of Statistical Data Science), Units: 4, 25 hours.
- STA 103 (Applied Statistics for Business and Economics), Units: 4, 25 hours.

Courses taught in the Winter Term:

- STA 106 (Analysis of Variance), Units: 4+4, 25+25 hours.

Courses taught in the Summer Term:

- STA 141A (Fundamentals of Statistical Data Science), Units: 4, 25 hours

PROFESSIONAL EXPERIENCE

- A.A. 2021/2022-today: Master in **Data Science and Business Analytics**, course in "**Statistics and Data Analysis**", Bologna Business School, Module 1 (15 hours per year).
- June 2022: "Statistical methods for credit scoring", program in Risk Management & Analytics, CRIF SpA (10 hours).
- April 2021: spin-off project App-Rendo awarded of 2000€ for makerspace-coworking at the "Call for Spin Off 2020", University of Bologna.
- Winter 2020-2021: realization of a learning path in Data Science for young graduates concerning "Outlier Detection" and "Robust Clustering" (8 hours) at CROS-NT s.r.l.
- Collaboration with the statistical atelier Data Science Lab for the following projects:
 - Instructor at Banca d'Italia Centro Donato Menichella Frascati (RM) "Robust statistics: techniques of outlier identification and treatment" crash course held for the staff of Banca d'Italia in May 2016 and May 2017.
 - Teaching activities at **SIDA Group**:
 - 22-23.12.2016/12.01.2017, for the Executive Master in Big Data Science and Information Management in Bologna, he holds a module entitled "Big Data science: robust methods of statistical analysis".
 - 13-20.10.2017, for the Executive Master in **Big Data Science and Information Management** in Verona, he holds a module entitled "**Big Data science: robust methods of statistical analysis**".
- Teaching activities at **SIDA Group**, for the Executive Master in **Finance and Control** in Bologna, he holds a module entitled "**Banking compliance**", 08-09.01.2016.
- PhD Trainee, European Central Bank, Supervisory Statistics Division, 01.04.2015-30.09.2015.
 Development of outlier detection and clustering methods for statistical analysis of banking supervisory data.

- 1st level Professional Master in **Music Theory and Analysis**, 22 December 2021, 110/110, cum laude, with a thesis entitled "**Franz Liszt's Transcendental Etude S.136 no.1: a statistical analysis by machine learning**".
- 4 March 2016: PhD in Statistical Sciences, Department of Statistical Sciences, University of Bologna, with a thesis entitled "Large covariance matrix estimation by composite minimization", supervisor Prof. Angela Montanari.
- November 2014: degree of **II Level Piano Master** by the Musical Institute "G. Verdi" Ravenna, with full score (110/110).
- Autumn 2014: Executive Master in Finance, Control, Auditing, Risk Management and Compliance at Sida Group s.r.l. – Bologna.
- 20-21 March 2014: Sheraton Hotel, Palo Alto, CA, USA, two-day course "Statistics and Data Mining III", by Prof. Trevor Hastie & Robert Tibshirani.
- March-April 2014: Visiting Research Student at the Department of Statistics of Stanford University, under the guidance of Prof. Trevor Hastie.
- July 2012: **admitted** to the **PhD** in **Statistical Sciences**, Department of Statistical Sciences, University of Bologna, starting in October 2012.
- June 2012: award of the **UCL Impact Studentship** for the PhD in Statistical Science at the University College London (offer declined).
- February-June 2012, Erasmus student for Master thesis at the Department of Statistical Science of the **University College London**, under the guidance of Prof. Sofia Olhede.
- September 2010 June 2012: University of Bologna, Faculty of Statistical Sciences, Laurea Magistrale in "Statistica, Economia e Impresa" (MSc. in Statistics, Economics and Business), Curriculum Economics, Graduated: 13 June 2012 (full score 110/110 cum laude), under the guidance of Prof. Angela Montanari and the co-guidance of Prof. Sofia Olhede.
- September 2010 June 2012: Collegio Superiore dell'Università di Bologna, School of Excellence, Licenza Magistrale (received 31/05/2013).
- November 2007 July 2010: Musical Institute "G. Verdi" Ravenna, **Piano Diploma** (9/10).
- September 2007 June 2010: University of Bologna, Faculty of Statistical Sciences, Laurea Triennale in "Statistica, Impresa e Mercati" (B.S. in Statistics, Business and Markets), Graduated: 8 June 2010 (full score 110/110 cum laude and special mention), under the guidance of Prof. Angela Montanari.
- September 2002 July 2007: Liceo Scientifico "Rambaldi-Valeriani" of Imola (BO), High School Diploma (scientific studies), full score (100/100).

TEACHING AND SUPPORTIVE TUTOR ACTIVITIES

- **Teaching Tutor** in **Statistics** (20 hours) and **Linear models** (20 hours) at the School of Economics, Management and Statistics, University of Bologna, A.Y. 2016/2017.
- Teaching Tutor in Statistics: 60 hours at the School of Political Sciences, University of Bologna,

- A.Y. 2013/2014, 2014/2015, 2015/2016, 30 hours A.Y. 2016/2017.
- **Tutor** at the Department of Mathematics, University of Bologna, for the realization of a Tutorial for high school students about **financial risk**, A.Y. 2015/2016.
- **Tutor** (200 hours) at the Department of Statistical Sciences, University of Bologna, for **Master Courses** in "Statistical Sciences" and in "Statistics, Economics and Business", A.Y. 2012/2013.
- **Teaching Assistant** in **Linear Algebra** (15 hours), Faculty of Statistical Sciences, University of Bologna, A.Y. 2010/2011, 2011/2012.
- **Tutor** at the Department of Mathematics, University of Bologna, for the realization of a survey sampling about "**Statistics and happiness**", A.Y. 2010/2011.

AWARDS

- July 2022: Chikio Hayashi Award for young researchers aged 30-34, IFCS 2022, Classification and Data Science in the Digital Age.
- May 2022: GHAIA Project Supplementary Call 2022 European Project H2020-MSCA-RISE-2017 Marie Skłodkowska-Curie grant for a research stay at UC Davis.
- Travel Grant amounting to 770 € funded by COST Action to attend a Spring Course in "Multivariate data analysis and software" in Limassol, Cyprus, April 2018.
- Research Scholarship "British Academy "from the Italian Lincei National Academy of Sciences amounting to 5000 €, March-July 2018.
- **PhD Traineeship** awarded from the **European Central Bank** (Supervisory Statistics Division) amounting to 1900 €/month, April-September 2015.
- **PhD Scholarship** funded by the Italian Ministry of Instruction, University and Research from the University of Bologna amounting to 13.638,47€/year, A.Y 2012/2013, 2013/2014, 2014/2015.
- **Best student** in the Faculty of Statistical Sciences, A.Y. 2011/2012.
- Ranked **first** in the competition for a scholarship from the **Collegio Superiore** of the University of Bologna, amounting to 2650 €/year plus tuition fees and lodging, A.Y 2010/2011, 2011/2012.

REFEREE ACTIVITIES

- January 2024 today: associate editor of the journal "Statistical Analysis and Data Mining".
- Reviewer since 2016 for the following scientific journals: "Econometrics", "Scandinavian Journal of Statistics", "Cogent Mathematics & Statistics", "Journal of Investment Strategies", "Statistica", "Statistics and Computing", "Economic Notes", "Annals of Statistics", "Mathematics", "Transactions on Multimedia Computing Communications and Applications", "Statistical Methods & Applications", "Journal of the American Statistical Association", "Electronics", "Symmetry", "Financial Research Letters", "Computational Economics", "Economics Bulletin", "Advances in Data Analysis and Classification", "Journal of Business Economics and Statistics", "Statistica Sinica", "Journal of Econometrics", "Annals of Operations Research", "Stat".
- December 2016/January 2017 external referee for a research project on statistical methods for high dimensional data. The task was relative to the assignment of a Discovery Grant in Mathematics and Statistics by the Natural Sciences and Engineering Research Council of Canada (NSERC).

PARTICIPATION IN COMMITTEES

- March 22, 2024: final exam of Luca Bungaro, PhD in Statistical Sciences, thesis entitled "Response times in computerized adaptive testing: A method for cheating detection", with Prof. Leonardo Grilli and Prof. Michela Battauz.
- March 30, 2023: evaluation committee for a 12-month research fellowship entitled "Digital skills among students: a statistical analysis to explore inequalities and determinants", with Prof.ssa Stefania Mignani and Prof.ssa Mariagiulia Matteucci.

THESIS SUPERVISION ACTIVITY

- A.Y. 2022/2023-today: supervisor of Viviana Schisa, PhD student in Statistical Sciences. Her research project regards the evaluation of the impact of climate change on the need for medicines related to respiratory diseases in Greek regions across the period 2017-2023. It is funded by a PNRR three-year research scholarship in collaboration with Alira Health.
- A.Y. 2019/2020-today: supervisor of **52 Master theses** in Statistics, Economics and Business.

INSTITUTIONAL DUTIES

- A.A. 2023/24-today: member of the Public Engagement and Third Mission Committee, Department of Statistical Sciences, University of Bologna
- September 2022-today: responsible for the **Statistic Clinic**, a service of statistical analysis dedicated to UNIBO researchers, Department of Statistical Sciences, University of Bologna
- A.A. 2022/23-today: member of the **Admission Board**, Master in Statistics, Economics and Business.
- A.A. 2021/22-today: member of the **Quality Assurance Committee**, Master in Statistics, Economics and Business.
- A.A. 2021/22-today: responsible for the **Research Assistantship**, a research traineeship to be held in the Department of Statistical Sciences, University of Bologna, for the students of the Master degree in Statistics, Economics and Business.

AFFILIATIONS

- Member of young-SIS (Italian Statistical Society), years 2013-2016.
- Member of the Directive Council of the Alumni Association of the **Collegio Superiore**, A.Y. 2014/2015, 2015/2016.
- Post doc representative in the Department Council, Department of Statistical Sciences "Paolo Fortunati" of the University of Bologna, June 2016 September 2019.
- Member of SIS (Italian Statistical Society) since 2018.
- Member of CLADAG (Classification and Data Analysis Group) since 2022.

PUBLICATIONS

- Matteo Farnè (2013), Discussion on "Large covariance estimation by thresholding principal orthogonal complements", by J. Fan et al., Journal of the Royal Statistical Society: Series B (Statistical Methodology), p.661, DOI: 10.1111/rssb.12016, http://onlinelibrary.wiley.com/doi/10.1111/rssb.12016/epdf

- Matteo Farnè, Angela Montanari (2016), "Different estimators of the spectral matrix: an empirical comparison testing a new shrinkage estimator". Communications in Statistics-Theory and Methods, 45(2), 354-364. https://www.tandfonline.com/doi/full/10.1080/03610926.2013.809117
- Matteo Farnè (2016), "*An algorithm to simulate VMA processes having a spectrum with fixed condition number*". Communications in Statistics-Simulation and Computation, 45(5), 1664-1675. https://www.tandfonline.com/doi/full/10.1080/03610918.2014.930900
- Matteo Farnè, Angela Montanari (2020), "A large covariance matrix estimator under intermediate spikiness regimes". https://www.sciencedirect.com/science/article/pii/S0047259X19301216 Journal of Multivariate Analysis, 176:104577.
- Matteo Farnè, Angelos Vouldis (2020), "Does bank's business model affect their capital and profitability?". DOI: 10.1111/ecno.12161. https://onlinelibrary.wiley.com/doi/abs/10.1111/ecno.12161. Economic Notes, 49(2).
- Roberta Combei, Matteo Farnè, Luca Pinto and Daniela Giannetti (2020). "*Populism and Policy. Examining Political Communication on Twitter in Italy 2018-2019*". https://italianpoliticalscience.com/index.php/ips/article/view/136/106. ISSN 2420-8434. Italian Political Science, 15(2).
- Matteo Farnè, Angelos Vouldis (2021), "Banks' business models in the euro area: a cluster analysis in high dimensions". https://link.springer.com/article/10.1007/s10479-021-04045-9. Annals of Operations Research, 1-35. DOI:10.1007/s10479-021-04045-9.
- Matteo Farnè, Angelos Vouldis (2021), "Banks' risk-taking within a banking union". Economics Letters 204, 109909. https://doi.org/10.1016/j.econlet.2021.109909. DOI: 10.1016/j.econlet.2021.109909
- Matteo Farnè, Angela Montanari (2022), "A bootstrap method to test Granger-causality in the frequency domain". DOI: 10.1007/s10614-021-10112-x. Computational economics, 59, 935-966. https://link.springer.com/content/pdf/10.1007/s10614-021-10112-x.pdf
- Gioia Taraborrelli; Matteo Farnè (2022), Come sfruttare gli Educational Data? Un inquadramento di usi e metodologie di analisi, Induzioni, 62/63, 27 -39
- Enrico Bernardi, Matteo Farnè, (2022) "A Log-Det Heuristics for Covariance Matrix Estimation: The Analytic Setup". https://www.mdpi.com/2571-905X/5/3/37/html Stats 5(3), 606-616. DOI: 10.3390/stats5030037
- Matteo Barigozzi, Matteo Farnè (2022), "An algebraic estimator for large spectral density matrices". https://www.tandfonline.com/doi/full/10.1080/01621459.2022.2126780 Journal of the American Statistical Association. DOI: 10.1080/01621459.2022.2126780
- Matteo Farnè, Angela Montanari (2023). "High-dimensional regression coefficient estimation by nuclear norm plus 11 norm penalization". https://onlinelibrary.wiley.com/doi/10.1002/sta4.548 Stat, 12(1), e548.
- Farnè, Marianna; Fortunato, Fernanda; Neri, Marcella; Farne, Matteo; Balla, Cristina; Albamonte, Emilio; Barp, Andrea; Armaroli, Annarita; Perugini, Enrica; Carinci, Valeria; Facchini, Marco; Chiarini, Luca; Sansone, Valeria A; Straudi, Sofia; Tugnoli, Valeria; Sette, Elisabetta; Sensi, Mariachiara; Bertini, Matteo; Evangelista, Teresinha; Ferlini, Alessandra; Gualandi, Francesca (2023), "*TeleNEwCARe: An Italian case-control telegenetics study in patients with Hereditary NEuromuscular and CArdiac diseases*". https://www.sciencedirect.com/science/article/pii/S1769721223000551 European Journal of Medical Genetics, 2023, 66, 104749, pp. 1 7.

- Matteo Farnè, Angelos Vouldis (2023). "Challenges in Using High-Dimensional Clustering Methods to Identify Banks' Business Models." https://doi.org/10.4135/9781529667929 In Sage Research Methods: Business. SAGE Publications Ltd.
- Matteo Farnè, Angelos Vouldis (2023). "*ROBOUT: a conditional outlier detection methodology for high-dimensional data*". Statistical Papers, 1-37." https://link.springer.com/article/10.1007/s00362-023-01492-3
- Federica Biazzo; Matteo Farnè (2023), "Spotify Song Analysis by Statistical Machine Learning", International Journal of Music Science, Technology and Art (IJMSTA) 5 (1): 39-51, Music Academy "Studio Musica", 2023 ISSN: 2612-2146 (Online), https://www.ijmsta.com/Vol_5_1_Papers/IJMSTA_Paper_5.pdf
- Matteo Farnè, Angela Montanari, "*Large factor model estimation by nuclear norm plus 11 norm penalization*" (2024). https://www.sciencedirect.com/science/article/pii/S0047259X23000908 Journal of Multivariate Analysis, 199, 105244.
- Matteo Farnè, "Liszt's Étude S. 136 no. 1: audio data anaylsis of two different piano recordings" (2024). https://link.springer.com/article/10.1007/s11634-024-00594-6 Advances in Data Analysis and Classification, 1-26.
- Matteo Farnè, Angelos Vouldis, "Do retail-oriented banks have less non-performing loans?" (2024). https://www.sciencedirect.com/science/article/abs/pii/S1703494924000070 Journal of Economic Asymmetries, 29, e00358

CONFERENCE PROCEEDINGS

- Matteo Farnè (2013), Book of Abstracts of the Seventh International Workshop on Simulation, Rimini, Italy, 21-25 May 2013, "An algorithm to simulate VMA processes having a spectrum with fixed condition number", http://amsacta.unibo.it/3677/1/Quaderni_2013_3_Matteucci_Seventh.pdf, Quaderni di Dipartimento. Serie Ricerche 2013, n. 3, p.135, ISSN 1973-9346
- Matteo Farnè (2014), 7th International Conference of the ERCIM WG on Computational and Methodological Statistics, Pisa, Italy, 6-8 December 2014, "*Regularized covariance matrix estimation via composite minimization*", Book of Abstracts, http://www.cmstatistics.org/ERCIM2014/docs/BoA%20CFE-ERCIM%202014.pdf, p.155, ISBN: 978-84-937822-4-5
- Matteo Farnè (2015), IFCS Conference of the International Federation of Classification Societies, 6-8 July 2015, "Large covariance matrix estimation by composite minimization", Bologna, Italy, Conference Program and Book of Abstracts, https://iris.unipa.it/bitstream/10447/216467/1/IFCS2015 BookOfAbstracts.pdf, p.71
- Matteo Farnè (2015), 12-14 December 2015, London, UK, 8th International Conference of the ERCIM WG on Computational and Methodological Statistics, "Estimating large covariance matrices via low rank plus sparse decomposition", Book of Abstracts, http://www.cmstatistics.org/CMStatistics2015/docs/BoA%20CFE-CMStatistics%202015.pdf, p.90, ISBN 978-9963-2227-0-4
- Matteo Farnè and Angela Montanari (2017), International Work-Conference on Time Series Analysis (ITISE 2017), 18-20 September 2017, Granada, Spain, "Testing Granger-causality on macroeconomic time series: a bootstrap approach", http://itise.ugr.es/proceedings/ITISE_2017.zip, ISBN 978-84-17293-01-7, Volume 2, p.1050
- Matteo Farnè (2017), 16-18 December 2017, London, UK, 10th International Conference of the ERCIM WG on Computational and Methodological Statistics, "Factor model estimation by composite

minimization", Book of Abstracts, http://www.cmstatistics.org/CMStatistics2017/docs/BoA%20CFE-CMStatistics%202017.pdf, p.65, ISBN 978-9963-2227-4-2

- Matteo Farnè and Angela Montanari (2018), 3-5 April 2018, Limassol, Cyprus, CRoNoS Workshop and Spring Course on Multivariate Data Analysis and Software (CRoNoS MDA 2018), "Factor model estimation by composite minimization", http://cmstatistics.org/CRONOSMDA2018/docs/CRONOSMDA2018 BoA Electronic Version.pdf, p.5
- Matteo Farnè and Matteo Barigozzi (2018), 17-20 September 2018, Joint meeting of the Italian Mathematical Union, the Italian Society of Industrial and Applied Mathematics and the Polish Mathematical Society, "An algebraic estimator for large spectral matrices", http://umi-ptm.im.pwr.edu.pl/wp-content/uploads/2018/09/Talks.pdf, p.290
- Matteo Farnè and Matteo Barigozzi (2018), 14-16 December 2018, London, UK, 11th International Conference of the ERCIM WG on Computational and Methodological Statistics, Book of Abstracts, http://www.cmstatistics.org/CMStatistics2018/docs/BoACFECMStatistics2018.pdf, "An algebraic estimator for large spectral density matrices", p.79, ISBN 978-9963-2227-5-9
- Matteo Farnè and Matteo Barigozzi (2019), 18-20 March 2019, Bayreuth, Germany, ECDA 2019, Book of Abstracts, "*An algebraic estimator for large spectral density matrices*", http://www.gfkl.org/ecda2019/wp-content/uploads/sites/7/2019/03/Book of Abstracts FINAL.pdf
- Daniela Giannetti, Roberta Combei, Matteo Farnè, and Luca Pinto (2019), 9th Annual Conference of the European Political Science Association (EPSA), 20-22 June, 2019, Belfast, UK, "*The electoral connection in parliamentary debates: how legislative speeches and direct communication to the public interact*", EPSA 2019 Abstracts, https://app.oxfordabstracts.com/events/772/program-app/submission/86135.
- Daniela Giannetti, Roberta Combei, Matteo Farnè, and Luca Pinto (2019), Annual Meeting of the American Political Science Association (APSA), 29 August-1 September, 2019, Washington DC, USA, "Disentangling Populism in Floor Debates and Social Media: The Italian Case", APSA 2019 Proceedings, https://convention2.allacademic.com/one/apsa/apsa19/index.php?cmd=Online+Program+View+Session&selected session id=1543956&PHPSESSID=3qsmbc5n7htfqb29jm0ddqpuu6.
- Laura Anderlucci, Matteo Farnè, Giuliano Galimberti, and Angela Montanari (2019), 11-13 September 2019, Cassino (FR), Italy, 12th Scientific Meeting of the Classification and Data Analysis Group (CLADAG), "Sparse linear regression via random projections ensembles", Book of Short Papers, http://cea.unicas.it/e_book/Porzio.pdf, p.79, ISBN 978-88-8317-108-6
- Gabriele Russo; Alessia Tessari; Matteo Farnè; Giorgio Gatta; Giovanni Ottoboni (2019), 21st Conference of the European Society for Cognitive Psychology, 25-28 September 2019, Tenerife, Spain, "*What modulates the achievement in an in-ferential, visuo-spatial environment*", Book of Abstracts, p.309.
- Laura Anderlucci, Matteo Farnè, Giuliano Galimberti, and Angela Montanari (2019), 14-16 December 2019, London, UK, 12th International Conference of the ERCIM WG on Computational and Methodological Statistics, "*Sparse linear regression via random projections ensembles*", Book of Abstracts, http://www.cmstatistics.org/CMStatistics2019/docs/BoACFECMStatistics2019.pdf?20191121220149, p.79, ISBN 978-9963-2227-8-0
- Matteo Farnè; Angelos Vouldis (2022), "ROBOUT: a conditional outlier detection methodology for large-dimensional data", in: BOOK OF SHORT PAPERS, https://drive.google.com/file/d/1HEZG50lecMyx_NDRLi2Y7d0papiX9ZWO/view, pp. 161 167 (IES 2022, Capua, Italy, 27-28 January 2022)
- Alessandro Delmonte; Matteo Farnè (2022), "Evaluating customer satisfaction through Amazon reviews analysis: the Bluetooth earphones example", in: Proceedings of the 16th International Conference on

Statistical Analysis of Textual Data, http://www.edizionierranti.org/site/?p=2969, Edizioni Erranti di S. Pellegrino, 2022, pp. 298 - 305 (16th International Conference on Statistical Analysis of Textual Data - JADT 2022, Naples, Italy, 6-8 July 2022)

- Matteo Farnè, "*Trimmed factorial k-means*" (2023), in: BOOK OF ABSTRACTS AND SHORT PAPERS, https://www.statlab-unisa.it/cladag2023/wp-content/uploads/simple-file-list/IS18-4001.pdf, 2023, pp. 148 151 (CLADAG 2023 14th Scientific Meeting of the Classification and Data Analysis Group, Salerno, 11-13 September 2023)
- Matteo Farnè; Angelos Vouldis (2023), "ROBOUT: a stepwise methodology for conditional outlier detection", in: Book of the Short Papers, https://it.pearson.com/content/dam/region-core/italy/pearson-italy/pdf/Docenti/Universit%C3%A0/bozza-book-compresso-new1.pdf, pp. 450 455 (SIS 2023 Statistical Learning, Sustainability and Impact Evolution, Ancona, 21-23 June 2023)
- Federica Biazzo; Matteo Farnè (2023), "Redesigning Spotify Mood playlists by statistical machine learning", in: Proceedings of the International Conference on New Music Concepts, Treviso, Accademia Musicale Studio Musica, 2023, pp. 75 94
- Federica Biazzo; Matteo Farnè (2023), "Predicting musical genres from Spotify data by statistical machine learning", in: Proceedings of the Statistics and Data Science Conference, http://archivio.paviauniversitypress.it/oa/9788869521706.pdf, pp. 236 241 (Statistics and Data Science Conference, Pavia, 27-28 April 2023)
- Gioia Taraborrelli; Matteo Farnè (2023), "Educational Data Mining: clustering students' performance over time", in: BOOK OF SHORT PAPERS, https://www.svqs.it/wp-content/uploads/2023/07/IES2023BookShortPaper.pdf, pp. 490 495 (11th Scientific Meeting of the SIS Group "Statistics for the Evaluation and Quality in Services", Pescara, 30 August-1 September 2023)
- Matteo Farnè, Meng Yang (2024), "Comparing How Python and R Estimate Granger-Causality in the Frequency Domain", https://link.springer.com/chapter/10.1007/978-3-031-53717-2_20. In: García Márquez, F.P., Jamil, A., Ramirez, I.S., Eken, S., Hameed, A.A. (eds) Computing, Internet of Things and Data Analytics. ICCIDA 2023. Studies in Computational Intelligence, vol 1145. Springer, Cham, pp. 214-222.
- Alessandro Delmonte, Matteo Farnè (2024), "Predicting Customer Satisfaction by Amazon Reviews: The Bluetooth Earphones Example", https://link.springer.com/chapter/10.1007/978-3-031-55917-4_5. In: Giuseppe Giordano, Michelangelo Misuraca (eds). New Frontiers in Textual Data Analysis. International Conference on the Statistical Analysis of Textual Data (JADT, Journées d'Analyse Statistique des Données Textuelles), Napoli, 6-8 July 2022. Springer, Cham, pp. 53-62.
- Matteo Farnè, Angelos Vouldis (2024). "The Importance of Robust Second-Stage Regressions for Financial Data", https://link.springer.com/chapter/10.1007/978-3-031-63630-1_14. In: Marco Mingione, Maurizio Vichi, Giorgia Zaccaria (eds). High-quality and Timely Statistics New Methods and Applications. 4th Conference of European Statistics Stakeholders (CESS), 20-21 October, Rome. Springer, Cham, pp. 225-240.
- Francesco Maschio, Simonetta Sargenti, Matteo Farnè, Gabriele Cecchetti (2024). "Analysing electroacoustic music by integrating listening and signal processing". In: PROPUESTAS PEDAGÓGICAS E INTERDISCIPLINARES SOBRE EL ANALISIS Y LA TEORIA MUSICAL, https://repositorio.uam.es/handle/10486/714843. Wanceulen, Siviglia, pp.172-182.
- Matteo Farnè, Laura Zavarise (2024). "Modelling the topics of Italian tweets about the 2022 energy crisis". In: ICES 2024 2nd Italian Conference on Economic Statistics. BOOK OF SHORT PAPERS. Editors: Elena Fabrizi, Francesca Adele Giambona, Caterina Marini, Andrea Marletta, Antonella Rocca. Casa Editrice Bonechi, Florence, pp. 101-104.

- Matteo Farnè, Giulia Benelli (2024). "Fake news language analysis and detection via a text mining approach". In: Anne Dister et Dominique Longrée (éd.) (eds). JADT 2024 Mots comptés, textes déchiffrés Tome 1. International Conference on the Statistical Analysis of Textual Data (JADT, Journées d'Analyse Statistique des Données Textuelles), Bruxelles, 24-27 June 2024. Presses universitaires de Louvain, Belgium, pp. 349-358.
- Matteo Farnè, Giulia Benelli (2025). "Detecting Fake News from Text: a Stagewise Methodology". In: Alessio Pollice, Paolo Mariani (eds). SIS2024, Short Papers. Springer, Cham, https://link.springer.com/chapter/10.1007/978-3-031-64431-3 107
- Matteo Farnè, Furio Camillo (2025). "Trimmed factorial k-means: a clustering application to a cookies dataset". Proceedings of CLADAG 2023, 14-th Scientific Meeting of the Classification and Data Analysis Group, Salerno, September 11-13, 2023. Accepted.

CONFERENCE ROLES

As a **member** of the Local Organizing Committee:

- IMPS 2022, "International Meeting of the Psychometric Society 2022", Bologna, July 11-15, 2022.

As a **member** of the Scientific Committee:

- ASA 2023, "Statistics, Technology and Data Science for Economic and Social Development", Bologna, September 6-8, 2023.

As a discussant:

- SIS 2023 – Statistical Learning, Sustainability and Impact Evaluation", Ancona, June 21-23, 2023. Multivariate data analysis 2. Chair: Salvatore Daniele Tomarchio.

As a **presenter**:

- 46th Scientific Meeting of the Italian Statistical Society, Roma, Italy, 20-22 June 2012, **Invited talk**, "Different estimators of the spectral matrix: an empirical comparison".
- Royal Statistical Society, London, UK, 13 February 2013, **Invited discussion** on "*Large covariance estimation by thresholding principal orthogonal complements*" by J. Fan et al.
- 7th International Workshop on Simulation, Rimini, Italy, 21-25 May 2013, **Invited talk**," *An algorithm to simulate VMA processes having a spectrum with fixed condition number*".
- 7th International Conference of the ERCIM WG on Computational and Methodological Statistics, Pisa, Italy, 6-8 December 2014, **Invited talk**, "*Regularized covariance matrix estimation via composite minimization*".
- Supervisory Statistics Division Meeting European Central Bank, Frankfurt am Main, Germany, 28 May 2015, "Outlier detection via cluster analysis: a data-driven approach".
- Conference of the International Federation of the Classification Societies, Bologna, Italy, 6-8 July 2015, Department of Statistical Sciences "Paolo Fortunati" of the University of Bologna, **Invited talk**, "*Large covariance matrices estimation by composite minimization*".
- Supervisory Statistics Division Meeting European Central Bank, Frankfurt am Main, Germany, 24 August 2015, "Peer group classification of SSM banks and outlier detection: a data-driven approach".

- Working Group Supervisory Statistics, Frankfurt am Main, Germany, 3 September 2015, "Peer group classification of SSM banks and outlier detection: a data-driven approach".
- Brownbag Seminar, DG-Statistics, European Central Bank, Frankfurt am Main, Germany, 29 September 2015, "Peer group classification of SSM banks and outlier detection: a data-driven approach".
- 8th International Conference of the ERCIM WG on Computational and Methodological Statistics, London, UK, 12-14 December 2015, **Invited talk**, "*Large covariance matrices estimation by composite minimization*".
- "L'Università di Bologna incontra", 23 February 2017, Imola (BO), Italy, Palazzo Sersanti, **Invited talk**, "Sound and number: an inseparable bond".
- International Work-Conference on Time Series Analysis (ITISE 2017), 18-20 September 2017, Granada, Spain, Contributed talk, "Testing Granger-causality on macroeconomic time series: a bootstrap approach".
- 11th International Conference of the ERCIM WG on Computational and Methodological Statistics, 16-18 December 2017, London, UK, **Invited talk**, "*Factor model estimation by composite minimization*".
- Theoretical and algorithmic underpinnings of Big Data, Isaac Newton Institute for Mathematical Sciences, 15-19 January 2018, Cambridge, UK, **Poster presentation**, "Factor model estimation by composite minimization".
- Statistics Seminar Series, London School of Economics and Political Science, 16 February 2018, London, UK, **Invited seminar**, "Factor model estimation by composite minimization".
- King's College London, Institute for Mathematical and Molecular Biomedicine, 23 March 2018, London, UK, **Invited seminar**, "Factor model estimation by composite minimization".
- Multivariate data analysis and software, 3-5 April 2018, Limassol, Cyprus, **Poster presentation**, "Factor model estimation by composite minimization".
- University of Naples "Federico II", Department of Political Sciences, 21 May 2018, Naples, Italy, **Invited seminar**, "Factor model estimation by composite minimization".
- University of Wroclaw, 17-20 September 2018, Joint meeting of the Italian Mathematical Union, the Italian Society of Industrial and Applied Mathematics and the Polish Mathematical Society, Wroclaw, Poland, **Invited talk**, "*An algebraic estimator for large spectral matrices*", session entitled "Challenges and Methods of Modern Statistics".
- 11th International Conference of the ERCIM WG on Computational and Methodological Statistics, 14-16 December 2018, Pisa, Italy, **Invited talk**, "*An algebraic estimator for large spectral matrices*".
- 6th European Conference on Data Analysis, 18-20 March 2019, Bayreuth, Germany, **Invited talk**, "*An algebraic estimator for large spectral density matrices*".
- StaTalk 2019 @ UniBO 29 March 2019, Department of Statistical Sciences "Paolo Fortunati", Bologna, Italy, **Contributed talk**, "*An algebraic estimator for large spectral density matrices*".
- Workshop on "Bank business models", 19 June 2019, London, UK, CASS Business School, **Invited talk**, "Business models of the banks in the euro area".

- SIS 2019, Smart Statistics for Smart Applications, 18-21 June 2019, Milano, Italy, **Invited talk**, "*An algebraic estimator for large spectral density matrices*".
- 6th RCEA Time Series Econometrics Workshop, 22-23 June 2019, Larnaca, Cyprus, **Invited talk**, "*An algebraic estimator for large spectral density matrices*".
- 25th June 2021, 7th RCEA Time Series Workshop, "A bootstrap method to test Granger-causality in the frequency domain", **Contributed talk**.
- IES 2022, "Innovation & Society 5.0: statistical and economic methodologies for quality assessment", University of Campania "L. Vanvitelli", January 27-28, 2022, **Invited talk**, "SS5 Big Data and Large-dimensional Data", Organizer and Chair: Stefania Mignani, "ROBOUT: a conditional outlier detection methodology for large-dimensional data", with Angelos Vouldis.
- Mathematical Methods of Modern Statistics 3, 27 June-1 July 2022, CIRM, Luminy (Marseille), France, "Large covariance matrix estimation by penalized log-det minimization", **Invited talk**, with Enrico Bernardi.
- IFCS 2022, "Franz Liszt's Transcendental Etudes: an Evolutionary Analysis by Machine Learning", Porto, Portugal, 19-23 July 2022, Contributed talk.
- COMPSTAT 2022, 23-26 August 2022, Bologna, Italy, **Invited talk**, "*An algebraic estimator for large spectral density matrices*".
- MBC2 2022, 31 August-2 September 2022, Catania, Italy, **Invited talk**, " *Banks' business models in the euro area: a cluster analysis in high dimensions*".
- Bologna-Waseda Time Series Workshop. October 8-9, 2022. Accademia delle Scienze, Via Zamboni, 31, 40126 Bologna. **Invited talk**: "An algebraic estimator for large spectral density matrices".
- CESS 2022, 20-21 October 2022, Roma, Italy, **Contributed talk** with Angelos Vouldis: "ROBOUT: a conditional outlier detection methodology for large-dimensional data".
- XVI Colloquio di Musicologia del "Saggiatore musicale" (Imola e Bologna, 4-6 novembre): "Il primo Studio trascendentale di Liszt: un'analisi guidata dai dati".
- Measurement in STEM Education 1 (MESE1) (Napoli, 30 January- 1 February 2023). **Invited talk**: "*Clustering educational data: a high school students' performance analysis*", with Gioia Taraborelli.
- 10th International Conference on New Music Concepts (ICNMC 2023). Silea (TV), March 25-26, 2023. **Contributed talk**: "Replicating Spotify "Mood" playlists by machine learning", with Federica Biazzo.
- Statistics for Data Science and Artificial Intelligence Conference University of Pavia. Pavia, April 27-28. **Contributed talk**, with Federica Biazzo: "*Predicting musical genres from Spotify data by statistical machine learning*". Session: Machine Learning approaches I.
- SIS 2023 Statistical Learning, Sustainability, and Impact Evaluation", Ancona, June 21-23, 2023. **Contributed talk**, with Angelos Vouldis: "*ROBOUT: a multi-step methodology for conditional outlier detection*".
- IES 2023, "Statistical Methods for Evaluation and Quality: Techniques, Technologies and Trends", Pescara, August 30-September 1, 2023. **Solicited Session** SS22 Methodological developments and applications for the assessment of student competencies. "*Educational Data Mining: clustering students'* performance over time", with Gioia Taraborrelli.

- ASA 2023, "Statistics, Technology and Data Science for Economic and Social Development", Bologna, September 6-8, 2023. Session of **contributed papers** on: "Education and Society", "*A comparison between parametric and non-parametric models: An application to university students' rental prices*", with Annalisa Sonnati and Elena Grimaccia.
- CLADAG 2023, 14-th Scientific Meeting of the Classification and Data Analysis Group, Salerno, September 11-13, 2023. **Invited session** #5, IS-23 | Measurement uncertainty in complex models, "*Trimmed factorial k-means*".
- SAMSA 2023, 2023 Southern Africa Mathematical Sciences Association (SAMSA) Annual Conference, Pretoria, November 21-24, 2023. **Contributed session**, "Covariance matrix and factor model estimation by composite minimization".
- CMStatistics 2023, Berlin, Germany, 16-18 December 2023, **Invited session** EO142 "y-SIS "Advances in Robust Statistical Methods for Complex Data", "*ROBOUT: A stepwise methodology for conditional outlier detection*", with Angelos Vouldis.
- 2nd Italian Conference on Economic Statistics, 7-8 February 2024, Florence, Italy, **Contributed session** "Data complexity for Enrivonmental Sustainability", "Modelling the Topics of Italian Tweets About the 2022 Energy Crisis", with Laura Zavarise.
- DSSR 2024, Naples, Italy, 25-27 March 2024, **Contributed session** "Methods for Environment", "Modelling the Topics of Italian Tweets About the 2022 Energy Crisis", with Laura Zavarise.
- Udine, Italy, 4 June 2024. **Workshop** "Latent variable models for complex data". **Invited talk** "Covariance matrix and factor model estimation by composite minimization".
- Bruxelles, Belgium, 24-27 June 2024. JADT 2024 17th International Conference on Statistical Analysis of Textual Data, Contributed talk "Fake news language analysis and detection via a text mining approach".
- Catania, Italy, 28-30 August 2024. MBC2 (Models and Learning in Clustering and Classification), **Invited talk** "endogeNOVA: a latent variable approach to assess endogenous bank performance from ECB supervisory data", with Roberto Di Mari.

As a co-author:

- 9th Annual Conference of the European Political Science Association (EPSA), 20-22 June 2019, Belfast, UK, "The electoral connection in parliamentary debates: how legislative speeches and direct communication to the public interact", **Contributed talk** with Daniela Giannetti, Roberta Combei, and Luca Pinto.
- 2019 Annual Meeting of the American Political Science Association (APSA), 29 August-1 September 2019, Washington DC, USA, "*Disentangling Populism in Floor Debates and Social Media: The Italian Case*", Contributed talk with Daniela Giannetti, Roberta Combei, and Luca Pinto.
- 12th Scientific Meeting of the Classification and Data Analysis Group (CLADAG), 11-13 September 2019, Cassino (FR), Italy, "Sparse linear regression via random projections ensembles", Contributed talk with Laura Anderlucci, Giuliano Galimberti, and Angela Montanari.
- 12th International Conference of the ERCIM WG on Computational and Methodological Statistics, 14-16 December 2019, London, UK, "*Sparse linear regression via random projections ensembles*", **Invited talk**, with Laura Anderlucci, Giuliano Galimberti, and Angela Montanari.

- International Statistical Institute, IPS 233 Invited Paper Session "Data science and statistics", 63rd World Statistics Congress, 15th July 2021, "*Variable screening in high dimensional regression via random projection ensembles*", **Invited talk**, with Laura Anderlucci, Giuliano Galimberti, and Angela Montanari.
- Working Group on Model-Based Clustering, Autumn Session 2021, Athens, October 25-30, 2021, "Variable screening in high dimensional regression via random projection ensembles", **Invited talk**, with Laura Anderlucci, Giuliano Galimberti, and Angela Montanari.
- IMPS 2022, "Predictor selection for high-dimensional regression via random projection ensembles", Bologna, 11-15 July 2022, **Invited talk**, with Laura Anderlucci, Giuliano Galimberti, and Angela Montanari.
- IFCS 2022, "High-dimensional Linear Regression Estimation", Porto, Portugal, 19-23 July 2022, **Poster** with Mauro Iannuzzi.
- IFCS 2022, "Predictor selection for high-dimensional regression via random projection ensembles", Porto, Portugal, 19-23 July 2022, **Invited talk**, with Laura Anderlucci, Giuliano Galimberti, and Angela Montanari.
- Rome, Italy, 12-13 September 2024, "Data Science in the 21st century: methodological innovations, empirical challenges and potential future directions". **Invited talk** entitled "endogeNOVA: a latent variable approach to assess endogenous bank performance from the ECB supervisory data", with Roberto Di Mari.

INVITED SEMINARS

- Statistics Seminar Series, 2 April 2020, UC Davis, Davis, CA, USA, "Covariance matrix and factor model estimation by composite minimization".
- Liceo "Spinelli", Giovinazzo (BA), 15 January 2021, "I numeri del COVID: la statistica parla chiaro? Analisi delle serie storiche virali".
- University of Sheffield, Workshop, 27 April 2021, "Bridging the Gap: Innovative methods for text analysis in political science and the IR", "Disentangling Populism in Social Media: The Political Discourse on Twitter in Italy (2018-2019)".
- University of Catania, 31 March 2023, "High-dimensional banking data: cluster analysis and outlier detection".
- Conservatorio di Pescara, Auditorium, 2 December 2023, "La valutazione della performance nelle esperienze di live electronics".
- University of Catania, 11 April 2024, "Covariance matrix, factor model, and spectral density matrix estimation by composite minimization".
- London School of Economics and Political Science, Statistics Department, 21 March 2025. "Large spectral density matrix and dynamic factor model estimation by nuclear norm plus \ell 1 norm penalization".

Bologna, 26 May 2025

Mator Fors