PERSONAL DATA

Surname and name: FARNÈ MATTEO

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CURRENT APPOINTMENT

- **Senior Assistant Professor** (RTD-B) in **Statistics** (SECS-S/01) at the Department of Statistical Sciences "Paolo Fortunati", University of Bologna, **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, by **unanimous** opinion of the five commissioners.

PAST APPOINTMENTS

- **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.
- **Visiting Researcher** at the **Statistics Department** of the **London School of Economics**, London, **1 March - 31 July 2018**, funded by a Research Scholarship "**British Academy**" from the Italian Lincei National Academy of Sciences, under the supervision of Prof. Matteo Barigozzi.
- **Post-doctoral Researcher** in Statistics (SECS-S/01) at the Department of Statistical Sciences "Paolo Fortunati", University of Bologna, **1 October 2015 - 30 September 2018**, with a research project entitled "**Large covariance matrix estimation via low rank plus sparse decomposition**", supervisor Prof. Cinzia Viroli.
- PhD Trainee, **European Central Bank**, Supervisory Statistics Division, **1 April 2015 - 30 September 2015**. Development of **outlier detection** and **clustering methods** for statistical analysis of banking supervisory data.

TEACHING ACTIVITY

At **Alma Mater Studiorum – University of Bologna**:

First cycle and Second cycle degrees:

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

▪ A.Y 2023/2024, A.Y. 2022/2023:

  - **Big Data and Analytics** (5 CFU**,** 30 hours), in English, Second cycle degree in in **Statistics, Business and Economics**, curriculum **Business Analytics**.
  - **Statistical methods for data mining** (10 CFU, 60 hours) in Italian, Department of Statistical Sciences, Second cycle degree in **Statistics, Business and Economics**, 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, Business and Economics**, 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, Business and Economics**, 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, Business and Economics**, curriculum **Marketing and Market Research**.

- As <u>Adjunct Professor</u>:

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**.

PhD degree:

- 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**.

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

- Fall 2021, 2022, 2023: 2nd level Master in **Data Science and Business Analytics**, course in "**Statistics and Data Analysis**", Bologna Business School, Module 1 (14 hours).
- 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.
- January 2021: shareholder (5%) in **Agorà Consulting** s.r.l., a society which provides **consultancy** and **training** in the Data Science field.
- 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**" – three-day **crash course** held for the staff of **Banca d'Italia – Servizio Rilevazioni Statistiche** in May 2016 and May 2017.

  - Teaching activities at **SIDA Group** s.r.l.:

22-23.12.2016-12.01.2017/13-20.10.2017, for the Executive Master in **Big Data Science and Information Management** in Bologna and Verona, module entitled "**Big Data science: robust methods of statistical analysis**".

- Teaching activities at **SIDA Group** s.r.l., for the Executive Master in **Finance and Control** in Bologna: module entitled "**Banking compliance**", 08-09.01.2016.

EDUCATION

- 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).

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

- My activity as a **reviewer** for scientific journals, starting **from 2016**, includes "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"**, "Financial Research Letters", "Computational Economics".

- 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 RESEARCH PROJECTS

- International:

2018: Research Scholarship “British Academy” of the Accademia Nazionale dei Lincei: *An algebraic estimator for large spectral density matrices*, under the supervision of Prof. Matteo Barigozzi.

2018: Air Force Office of Scientific Research award number FA9550-17-1-0103: *Big data covariance* estimation. Principal Investigator: Prof. Angela Montanari.

- National:

PRIN2011: *Multivariate statistical models for the assessment of risks*. Research Unit Responsible: Prof. Giuseppe Cavaliere.

SUPERVISION ACTIVITY

- A.Y. 2022/2023-today: supervisor of **Viviana Schisa**, PhD student in Statistical Sciences.
- A.Y. 2019/2020-today: **supervisor** of 35 Master theses in Statistics, Business and Economics.

TUTORIALS

- November-December 2021 – **Enspire Science’s Complete ERC Online Training**, offered by the University of Bologna.
- 20-21 May 2021 – International Statistical Institute, Short Course entitled “**Building technical editing and science communication skills for the 21st Century**”, by Professors Elena Naumova & Alessandro Fassò.
- 3-5 April 2018 – “**Multivariate data analysis and software**”, Spring Course, Limassol, Cyprus, with Travel Grant funded by COST Action.
- 5 December 2014 – 7th ERCIM Conference, Pisa, Scuola Superiore Sant’Anna, Tutorial on "**Multivariate Time Series - Bayesian Dynamic Modelling and Forecasting**" by Prof. Mike West.
- 9 December 2010 – 3rd ERCIM Conference, London, London School of Economics, Tutorial on "**Statistical Signal Extraction and Filtering**" by Prof. D.S.G. Pollock.

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 (Progetto Lauree Scientifiche).

- **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 (Progetto Lauree Scientifiche).

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**), 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 (2016), "*An algorithm to simulate VMA processes having a spectrum with fixed condition number*", "Communications in Statistics - Simulation and computation", 45:5, 1664-1675, DOI: 10.1080/03610918.2014.930900, http://www.tandfonline.com/doi/abs/10.1080/03610918.2014.930900

- 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", Volume 45, Issue 2 pp. 354-364, DOI: 10.1080/03610926.2013.809117, http://www.tandfonline.com/doi/abs/10.1080/03610926.2013.809117

- Matteo Farnè (2016), "*Large covariance matrix estimation by composite minimization*", PhD thesis, DOI 10.6092/unibo/amsdottorato/7250, http://amsdottorato.unibo.it/7250/

- Matteo Farnè, Angelos Vouldis (2017), "*Business models of the banks in the euro area*", ECB Working Paper Series, DOI: 10.2866/386225, ECB Working Paper 2070, May 2017, https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2070.en.pdf?18ed625d22e6b5c2a3447407fa2db26f

- Matteo Farnè, Angelos Vouldis (2018), "*A methodology for automatised multivariate outlier detection in fat, large datasets: Application to European banks' supervisory data*". ECB Working Paper 2171, July 2018, DOI: 10.2866/357467, https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2171.en.pdf?82505cf26e2245c8d3bb7aced5385f5a

- 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, Angela Montanari (2021), "*A bootstrap method to test Granger-causality in the frequency domain*". DOI: 10.1007/s10614-021-10112-x. Computational economics, 1-32. https://link.springer.com/content/pdf/10.1007/s10614-021-10112-x.pdf

- 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

- 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 l1 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

- Matteo Farnè, Angela Montanari, "*Large factor model estimation by nuclear norm plus l1 norm penalization*" (2023). https://www.sciencedirect.com/science/article/pii/S0047259X23000908 Journal of Multivariate Analysis, 199, 105244.

WORKING PAPERS

- Matteo Farnè, "*Franz Liszt's Transcendental Étude S.136 no.1: a statistical analysis by machine learning*". 2nd revision. ADAC (Advances in Data Analysis and Classification).

- Matteo Farnè, Angelos Vouldis, *"Do retail-oriented banks have less non-performing loans?"* Submitted to Journal of Economic Asymmetries.

- Matteo Farnè, Angelos Vouldis, *"Supervision regimes, banks' size and non-performing loans"*.

- Enrico Bernardi, Matteo Farnè, "*Large covariance matrix estimation by a penalized log-det heuristics*".

COMPUTATIONAL ROUTINES

- UNALCE: https://github.com/MatFar88/A-finite-sample-estimator-for-large-covariance-matrices

- Trimmed factorial k-means: https://github.com/MatFar88/A-clustering-methodology-for-European-banks-business-models

- R package "*grangers*": https://github.com/MatFar88/grangers

- UNALSE: https://github.com/MatFar88/An-algebraic-estimator-for-large-spectral-density-matrices

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_ElectronicVersion.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, 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, 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, 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, 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, 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, pp. 490 - 495 (11th Scientific Meeting of the SIS Group "Statistics for the Evaluation and Quality in Services", Pescara, 30 August-1 September 2023)

CONFERENCE TALKS

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*".

- 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*".

- Multivariate data analysis and software, 3-5 April 2018, Limassol, Cyprus, **Poster presentation**, "*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.

- 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 sessions** #5, IS-23 | Measurement uncertainty in complex models, "*Trimmed factorial k-means*".

- CMStatistics 2023, Berlin, Germany, 6-18 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.

As a **co-author**:

- 3rd ERCIM WG on Computational and Methodological Statistics 2010, London, UK, 10-12 December 2010, **Invited talk** with A. Montanari, D.G. Calò "*Model-based clustering of probability density functions*".

- Workshop in honor of Paola Monari, 3 February 2017, Bologna, Italy, Department of Statistical Sciences "Paolo Fortunati" of the University of Bologna, **Invited talk** with Angela Montanari, "*Large covariance matrices estimation by composite minimization*".

- 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*", with Laura Anderlucci, Giuliano Galimberti, and Angela Montanari.

- 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",* with Gabriele Russo, Alessia Tessari, Giorgio Gatta, and Giovanni Ottoboni.

- 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.

- 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.

- 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, *"Franz Liszt's Transcendental Etudes: an Evolutionary Analysis by Machine Learning"*, Porto, Portugal, 19-23 July 2022, **Contributed talk**.

- 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.

CHAIRED SESSIONS

- 7th RCEA Time Series Econometrics Workshop, 25-26 June 2021, **Speed session 7B**.

- COMPSTAT 2022, 23-26 August 2022, Bologna, Italy, **organized session**: "Dimension reduction in recent cross sectional and time series methods" CO176.

- COMPSTAT 2022, 23-26 August 2022, Bologna, Italy: "Dimension reduction" CC221.

- Convegno Annuale GATM, 20-23 October 2022, Salerno, Italy, “Analytical and Empirical-Experimental Approaches”.

SEMINARS

- 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*”.

- Lunch Seminar, University of Bologna, Department of Statistical Sciences, Bologna, Italy, 8 June 2017, **Invited seminar**, "*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*".

- University of Naples “Federico II”, Department of Political Sciences, 21 May 2018, Naples, Italy, **Invited seminar**, "*Factor model estimation by composite minimization*".

- Student-run seminar, 31 March 2020, UC Davis, Davis, CA, USA, “*Covariance matrix and factor model estimation by composite minimization*”, **Invited seminar**.

- Statistics Seminar Series, 2 April 2020, UC Davis, Davis, CA, USA, “*Covariance matrix and factor model estimation by composite minimization*”, **Invited seminar**.

- Liceo “Spinelli”, Giovinazzo (BA), 15 January 2021, “*I numeri del COVID: la statistica parla chiaro? Analisi delle serie storiche virali*”, **Invited seminar**.

- 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)*”, **Invited seminar**.

- Conservatorio di Pescara, Auditorium, 2 dicembre 2023, “La valutazione della performance nelle esperienze di live electronics”, **Invited seminar**.

Bologna, 13 December 2023

Matteo Farnè