

Gioia Di Credico

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Roma ◊ 14 giugno 1988

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Current position

Non-tenured assistant professor (RTDa) - SEC-S/01 Jan 2022 - present
Department of Economics, Business, Mathematics and Statistics “Bruno de Finetti”
University of Trieste, Trieste, Italy

Education

Ph.D. in Statistics - XXXI cycle Oct 2015 - Mar 2019
Department of Statistical Sciences, University of Padua, Padua, Italy

- Ph.D. thesis: “Some developments in semiparametric and cross-classified multilevel models”
Supervisors: prof. Francesco Pauli, prof. Nicola Torelli
- Visiting Ph.D. Scholar: School of Mathematical and Physical Sciences, University of Technology Sydney, Sydney, Australia
Supervisor: prof. Matt Wand

Master’s Degree in Statistics and Decision Sciences Jan 2011 - Mar 2014
Department of Statistical Science, University of Rome La Sapienza, Rome, Italy

Master-2 de recherche EuroBayes (double degree)
Université Paris Dauphine IX, Paris, France

- Master’s thesis: “Classification of Mediterranean and Black Sea Lagoons using multimetric indices for benthic macroinvertebrates”
Supervisor: prof. Giovanna Jona Lasinio
Final Grade: 110/110 cum laude

Bachelor’s Degree in Statistics and Informatics Oct 2007 - Dec 2010
Department of Statistical Science, University of Rome La Sapienza, Rome, Italy

- Bachelor’s thesis: “Diseguaglianza economica e preferenze politiche: un confronto tra paesi” (“Economic inequalities and political preferences: a comparison among Countries”)
Supervisor: prof. Maria Grazia Pittau
Final Grade: 110/110 cum laude
- Erasmus Exchange Programme: Erasmus University Rotterdam, Rotterdam, Netherlands

Academic position

Temporary research fellow (Assegno di ricerca - SEC-S/01) Jan 2021 - Jan 22
Department of Economics, Business, Mathematics and Statistics “Bruno de Finetti”
University of Trieste, Trieste, Italy

- research programme: “Models and tools for predicting the success of start-up firms”

Temporary research fellow (Assegno di ricerca - SEC-S/01) Dec 2019 - Nov 2020
Department of Economics, Business, Mathematics and Statistics “Bruno de Finetti”
University of Trieste, Trieste, Italy

- research programme: “Models, methods and algorithms for semiparametric regression”

Temporary research fellow (Assegno di ricerca - SEC-S/01) Dec 2018 - Nov 2019
Department of Economics, Business, Mathematics and Statistics “Bruno de Finetti”
University of Trieste, Trieste, Italy

- research programme: “Models and tools for predicting the success of start-up firms”, in collaboration with the IT group at Elettra-Sincrotrone Trieste S.C.p.A where part of the activity took place

Membership

Italian Statistical Society (SIS)
International Biometric Society (IBS)

Publications

- ◇ Francesco Santelli, Gioia Di Credico, and Claudia Di Caterina. High school proficiency of future university students: An analysis based on invalsi data. In *Book of Short papers 11th International Conference IES 2023 Statistical Methods for Evaluation and Quality: Techniques, Technologies and Trends (T3)*, pages 560–565. Edizioni “Il Viandante”, 2023. ISBN 979-12-803-3369-8. doi: 10.60984/978-88-94593-36-5-IES2023
- ◇ Gioia Di Credico and Francesco Pauli. *Observed Patterns of Heat Wave Intensities with Respect to Time and Global Surface Temperature*, volume 435, pages 87–103. Springer International Publishing, 2023. ISBN 978-3-031-42413-7. doi: 10.1007/978-3-031-42413-7
- ◇ Gioia Di Credico, Claudia Di Caterina, and Francesco Santelli. Streamlined variational inference for modeling italian educational data. In *Proceedings of the Statistics and Data Science Conference*, pages 102–107, Pavia, 2023. PaviaUniversityPress. ISBN 978-88-6952-170-6
- ◇ Marianne Menictas, Gioia Di Credico, and Matt P. Wand. Streamlined variational inference for linear mixed models with crossed random effects. *JOURNAL OF COMPUTATIONAL AND GRAPHICAL STATISTICS*, 32(1):99–115, 2023. doi: 10.1080/10618600.2022.2096622
- ◇ Francesco Guzzi, George Kourousias, Fulvio Bill(’e), et al. Signal alignment problems on multi-element x-ray fluorescence detectors. In *Applications in Electronics Pervading Industry, Environment and Society*, volume 866, pages 173–179. Springer International Publishing, 2022. ISBN 978-3-030-95498-7. doi: 10.1007/978-3-030-95498-7_24
- ◇ Gioia Di Credico and Nicola Torelli. Cluster based oversampling for imbalanced learning. In *Book of short papers SIS 2022*, pages 53–64. Pearson, 2022. ISBN 9788891932310
- ◇ Gioia Di Credico. *Sfide metodologiche per la previsione del successo di imprese innovative*, volume 1, pages 195–209. EUT, Trieste, 2022. ISBN 978-88-5511-307-6
- ◇ G. Di Credico, J. Polesel, L. Dal Maso, et al. Alcohol drinking and head and neck cancer risk: the joint effect of intensity and duration. *BRITISH JOURNAL OF CANCER*, 123(9):1456–1463, 2020a. doi: 10.1038/s41416-020-01031-z

- ◇ Gioia Di Credico. *A note on Bayesian estimation of free – knot splines*. Number 3. DEAMS Research Paper Series, 2020. ISBN 978-88-5511-197-3
- ◇ Gioia Di Credico, Francesco Pauli, and Nicola Torelli. On the selection of number of knots in linear regression splines with free-knots. In *Proceedings of the 35th International Workshop on Statistical Modelling - IWSM Conference 2020*, pages 325–328. Servicio Editorial de la Universidad del País Vasco Euskal Herriko Unibertsitateko Argitalpen Zerbitzua, 2020b. ISBN 978-84-1319-267-3
- ◇ Gioia Di Credico, Jerry Polesel, Luigino Dal Maso, et al. Bivariate spline models to assess the joint effect of intensity and duration of alcohol drinking and cancer of the oral cavity: a focus on a novel approach. In *Nuovi disegni della ricerca clinica: la sfida della complessità tra etica e salute*, pages 91–99. Consiglio Direttivo SISMEC, 2020c. ISBN 978-88-943456-2-9
- ◇ Gioia Di Credico, Valeria Edefonti, Jerry Polesel, et al. Joint effects of intensity and duration of cigarette smoking on the risk of head and neck cancer: A bivariate spline model approach. *ORAL ONCOLOGY*, 94/2019:47–57, 2019. doi: 10.1016/j.oraloncology.2019.05.006
- ◇ Gioia Di Credico. *Some developments in semiparametric and cross-classified multilevel models*. PhD thesis, University of Padua, 2018
- ◇ Gioia Di Credico, Francesco Pauli, and Nicola Torelli. *Bayesian estimation of number and position of knots in regression splines*, pages 1190–1195. Pearson, London, 2018. ISBN 9788891910233

Conferences and seminars

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- Statistical Methods for Evaluation and Quality: Techniques, Technologies and Trends (IES2023)** Aug 30, 2023
- “Heat waves and free-knots splines”, August 30 – September 1, 2023, Pescara, Italy (*Contributed talk*)
- Statistical Learning, Sustainability and Impact Evaluation (SIS2023)** Jun 21, 2023
- “High School Proficiency of Future University Students: an Analysis based on INVALSI Data”, June 21 – 23, 2023, Ancona, Italy (*Contributed talk*)
- 51st Scientific Meeting of the Italian Statistical Society (SIS2022)** Jun 22, 2022
- “Cluster based oversampling for imbalanced learning”, June 22 – 24, 2022, Caserta, Italy (*Specialized talk*)
- 9th International Conference on Risk Analysis (ICRA9)** May 25, 2022
- “Semiparametric approaches to investigate the functional form of a nonlinear relationship in FRAP data”, May 25 – 27, 2022, Perugia, Italy (*Contributed talk*)
- Le scienze umane e sociali per la valorizzazione del FVG** Sep 30, 2021
- “Sfide metodologiche per la previsione del successo di imprese innovative”, September 30 – October 1, 2021, Trieste, Italy (*Seminar*)
- 13th Virtual Conference of the Italian Region of the International Biometric Society (Italian Region-IBS)** Sep 29, 2021
- “Introducing nonlinear mixed-effects models in fluorescence recovery after photobleaching analyses”, September 20 – October 29, 2021, online (*Contributed talk*)

9th international workshop on Applications in Electronics Pervading Industry, Environment and Society (Applepies) Sep 22, 2021

- “Signal alignment problems on multi-element X-ray Fluorescence detectors”, September 21 – 22, 2021, online (*Contributed talk*)

Stataalk 2019 @UniTS Nov 22, 2019

- “A Bayesian approach to estimate the number and position of knots for linear regression splines”, Trieste, Italy (*Contributed talk*)

Cattinara Oct 14, 2019

- “Fumo e alcol: l’effetto combinato dell’intensità e della durata sul rischio dei tumori testa-collo”, Ospedale di Cattinara, Unità di biostatistica, Dipartimento di Scienze Mediche, Università di Trieste, Trieste, Italy (*Seminar*)

ASA Conference 2019 - Statistics for Health and Well-being Sep 26, 2019

- “Modelling the joint effect of intensity and duration of alcohol drinking with bivariate spline models”, September 25–27, 2019, Brescia, Italy (*Invited talk*)

X Congresso Nazionale SISMEC 2019 Sep 20, 2019

- “Bivariate spline models to assess the joint effect of intensity and duration of alcohol drinking and cancer of the oral cavity: a focus on a novel approach”, September 18–21, 2019, Rome, Italy (*Contributed talk*)

32nd European Meeting of Statisticians (EMS) Jul 26, 2019

- “A Bayesian approach to estimate the number and position of knots for linear regression splines”, July 22–26, 2019, Palermo, Italy (*Contributed talk*)

XII IBS - Networking International Biometrics Society Regions (IBS) Jul 8, 2019

- “Bivariate splines for modelling the joint effect of intensity of cigarette smoking on head and neck cancer risk”, July 7–10, 2019, Naples, Italy (*Contributed talk*)

49th Scientific meeting of the Italian Statistical Society (SIS2018) Jun 20, 2018

- “Bayesian estimation of number and position of knots in regression splines”, S.I.S. Scientific Meeting, June 20–22, 2018, Palermo, Italy (*Contributed talk*)

Teaching duties

As Teacher

- Data Analytics - SEC-S/01, Bachelor level (24 hrs) a.y. 22/23, 23/24
Department of Economics, Business, Mathematics and Statistics, University of Trieste
- Statistical Methods for Data Science - SEC-S/01, Master level (36 hrs) a.y. 22/23, 23/24
Department of Mathematics and Geosciences, University of Trieste

- Statistics - SEC-S/01, Bachelor level (30 hrs) a.y. 21/22, 22/23, 23/24
Department of Economics, Business, Mathematics and Statistics, University of Trieste
- Statistica Sociale - SEC-S/05, Bachelor level (15 hrs) a.y. 20/21, 21/22
Department of Humanities, University of Trieste
- Introduction to Bayesian Data Analysis with Stan Sep 30 - Oct 4, 2019
(2nd International Summer School, with prof. Egidi)
Department of Brain and Behavioural Sciences, University of Pavia, Pavia, Italy
- Probability and Statistics with R for Data Science a.y. 19/20, 20/21, 21/22
Pre-course to a Master course programme (18 hrs)
Department of Mathematics and Geosciences, University of Trieste, Trieste, Italy

As Teaching Assistant

- Statistical Methods for Data Science - SEC-S/01, Master level (12 hrs) a.y. 19/20, 20/21
Department of Mathematics and Geosciences, University of Trieste
I led practical sessions with R to review and deepen topics of the theoretical lessons. I also graded student homework and assisted the instructors with other teaching-related tasks.
- Modelli Statistici - SEC-S/01, Bachelor level (10 hrs) a.y. 19/20, 20/21, 22/23
Department of Economics, Business, Mathematics and Statistics, University of Trieste
During the course I led practical sessions based on examples and applications using R, to integrate theoretical lectures. I was part of the oral examination committee.
- Statistics - SEC-S/01, Bachelor level (20 hrs) a.y. 18/19, 19/20
Department of Economics, Business, Mathematics and Statistics, University of Trieste
During the course I held practical sessions with exercises and weekly student meetings.
- Bayesian Statistics - SEC-S/01, Master level (12 hrs) a.y. 18/19, 19/20, 20/21, 21/22
Department of Economics, Business, Mathematics and Statistics, University of Trieste

Professional Experience

Consorzio MIB Trieste School of Management Jun - Jul 2022, Apr - May 2023
Tutor in favour of Assicurazioni Generali S.p.A. in relation to the project “Business Translator”, Trieste, Italy

- I supervised the analysis of a Business Translators group to study the churn phenomenon.

Consorzio MIB Trieste School of Management Jun - Jul 2020, Mar - Apr 2021, Feb 2023
Teacher in favour of Assicurazioni Generali S.p.A. in relation to the project “Actuary of the Future”, Trieste, Italy

- Foundation courses: training modules to pick up on foundational knowledge and practice, to build a common language
I was teacher in the module “Data Collection, analysis and visualization” with prof. F. Pauli. We held synchronous webinars (4 hrs – 5 editions) on Shiny and how to build a Shiny app to analyse data from scratch.

Major Bit Consulting S.r.l.

Jul 2014 - Jan 2015

Statistical consultant at Poste Italiane, Rome, Italy

- IT and statistical development of directional dashboard for fraud management using SAS.
- Learning the basics of Business Intelligence and how to develop an IT Security Intelligence platform.

Languages

Italian: native language

English: proficient

Computer Skills

Language & software	R, Stan, LaTeX, Winbugs, RStudio, Office, SAS
Operating Systems	Windows, macOS, and Linux
Databases	MySQL

In compliance with the EU General Data Protection Regulation 2016/679, I hereby authorize you to use and process my personal details contained in this document.

Trieste, January 4, 2024

