GIACOMO DE NICOLA

Harvard T.H. Chan School of Public Health
655 Huntington Ave, 02115 Boston, MA, USA
Email: gdenicola@hsph.harvard.edu ⋄ Personal website: https://gdenicola.github.io/

ACADEMIC EXPERIENCE

Harvard T.H. Chan School of Public Health, Harvard University — Sept 2024 - present
Postdoctoral Research Fellow — *Boston, MA, USA*

Department of Statistics, LMU Munich — Apr 2024 - Aug 2024
Lecturer in Data Science — *Munich, Germany*

Department of Statistics, LMU Munich — Jul 2019 - Mar 2024
Doctoral Researcher — *Munich, Germany*

Department of Finance, Bocconi University — Jan-Apr 2018
Graduate Research Intern — *Milan, Italy*

IRPET - Regional Institute for Economic Planning of Tuscany — Apr-Jun 2015
Research Intern — *Florence, Italy*

EDUCATION

LMU Munich — 2019 - 2024
PhD in Statistics — *Munich, Germany*

Bocconi University — 2015 - 2019
MSc in Economic and Social Sciences — *Milan, Italy*

University of Florence — 2012 - 2015
BSc in Statistics — *Florence, Italy*

HONORS AND AWARDS

Corona Special Award: Impact of the pandemic on the economy and society - 2022
Awarded by the Federal Statistical Office of Germany (DESTATIS) for outstanding work examining empirical issues with intensive use of data related to the COVID-19 pandemic. Awarded for the papers "On assessing excess mortality in Germany during the COVID-19 pandemic" and "An update on excess mortality in the second year of the COVID-19 pandemic in Germany".

DAGStat Best Poster Award - 2022
Awarded for the poster *"Modelling large and dynamically growing bipartite networks - A case study in patent data"* presented at the DAGStat conference, March 28-Apr 1, 2022, Hamburg, Germany

"Giuseppe Parenti" Prize, Best Graduate - 2016
Awarded by the alumni association of the Faculty of Economics at the University of Florence ("Associazione Villa Favard") on the basis of overall GPA among all graduates of the faculty of Economics, Management and Statistics of the class of 2015 (first place among 1000+ students).

Productivity and merit scholarship - 2013, 2014, 2015
Scholarship awarded on the basis of academic merit and productivity by the University of Florence.

Fellow - LMU Mentoring Program 2023, 2024
The mentoring program supports excellent young scientists (doctoral students and postdocs) on their

way to an academic career. The program's funding allowed me to present at international conferences and visit collaborators overseas.

TEACHING

Courses

- Advanced Statistical Modeling (MSc Data Science, Lecturer, 2019-2022)
- Statistical Reasoning and Inference 1 (MSc Data Science, TA, 2020-2023)
- Statistical Reasoning and Inference 2 (MSc Data Science, TA, 2020-2023)
- Analysis of Longitudinal Data (MSc Statistics, TA, 2020-2021)
- Regression for Correlated Data (MSc Statistics, TA, 2022)
- Statistical Inference 1: Principles of estimation theory (BSc Statistics, TA, 2022-2024)
- Statistical Inference 2: Advanced estimation and test theory (BSc Statistics, TA, 2023-2024)

Seminars

- Complex Networks (2020)
- Statistical Analysis of Social Networks (2021, 2023, 2024)
- Statistical Analysis of COVID-19 Data (2022)
- Statistical Modeling of Political Networks (2022)
- Open Science in Statistics & Machine Learning (2022-2023)

Supervised Theses:

- "Recovering network structure through latent space models" (Lea Schulz-Vanheyden, BSc Statistics, 2020)
- "Network analysis of COVID-19 Twitter data" (Victor Tuekam, MSc Data Science, 2022)
- "Statistical network data analysis of German companies and their boards of directors" (Marie Kraft, BSc Statistics, 2022, in German)
- "Evaluating the performance of latent space models under misspecification through simulation" (Yiming Zhao, BSc Statistics and Data Science, 2024)

RESEARCH

Current Research Interests

- Latent variable models
- Statistical network analysis
- Nowcasting
- Crisis impact estimation
- Generalized regression models

Publications

[14] De Nicola, G., & Kauermann, G. (2024). Estimating excess mortality in high-income countries during the COVID-19 pandemic. *Journal of the Royal Statistical Society, Series A: Statistics in Society*, qnae031. https://doi.org/https://doi.org/10.1093/jrsssa/qnae031

[13] De Nicola, G., Fritz, C., Mehrl, M., & Kauermann, G. (2023). Dependence matters: Statistical models to identify the drivers of tie formation in economic networks. *Journal of Economic Behavior & Organization*, *215*, 351–363. https://doi.org/https://doi.org/10.1016/j.jebo.2023.09.021

[12] De Nicola, G., Tuekam Mambou, V. H., & Kauermann, G. (2023). COVID-19 and social media: Beyond polarization. *PNAS Nexus*, *2*(8), pgad246. https://doi.org/10.1093/pnasnexus/pgad246

[11] Fritz, C., De Nicola, G., Kevork, S., Harhoff, D., & Kauermann, G. (2023). Modelling the large and dynamically growing bipartite network of german patents and inventors. *Journal of the Royal Statistical Society Series A: Statistics in Society*, *186*(3), 557–576. https://doi.org/10.1093/jrsssa/qnad009

[10] Fritz, C., De Nicola, G., Rave, M., Weigert, M., Khazaei, Y., Berger, U., Küchenhoff, H., & Kauermann, G. (2022). Statistical modelling of COVID-19 data: Putting generalized additive models to work. *Statistical Modelling*. https://doi.org/10.1177/1471082X221124628

[9] Fritz, C., De Nicola, G., Günther, F., Rügamer, D., Rave, M., Schneble, M., Bender, A., Weigert, M., Brinks, R., Hoyer, A., Berger, U., Küchenhoff, H., & Kauermann, G. (2022). Challenges in interpreting epidemiological surveillance data – experiences from Germany. *Journal of Computational and Graphical Statistics*, *32*(3), 765–766. https://doi.org/10.1080/10618600.2022.2126482

[8] De Nicola, G., & Kauermann, G. (2022). An update on excess mortality in the second year of the COVID-19 pandemic in Germany. *AStA Wirtschafts-und Sozialstatistisches Archiv*, *16*, 21–24. Awarded with the "Corona Special Award: Impact of the pandemic on the economy and society" by the Federal Statistical Office of Germany. https://doi.org/10.1007/s11943-022-00303-9

[7] De Nicola, G., Schneble, M., Kauermann, G., & Berger, U. (2022). Regional now- and forecasting for data reported with delay: Towards surveillance of COVID-19 infections. *AStA Advances in Statistical Analysis*, (106), 407–426. https://doi.org/10.1007/s10182-021-00433-5

[6] De Nicola, G., Kauermann, G., & Höhle, M. (2022). On assessing excess mortality in Germany during the COVID-19 pandemic. *AStA Wirtschafts-und Sozialstatistisches Archiv*, *16*, 5–20. Discussed in interviews and featured in ***Nature*** and ***The New York Times***. Awarded with the "Corona Special Award: Impact of the pandemic on the economy and society" by the Federal Statistical Office of Germany. https://doi.org/10.1007/s11943-021-00297-w

[5] De Nicola, G., Sischka, B., & Kauermann, G. (2022). Mixture models and networks: The stochastic blockmodel. *Statistical Modelling*, *22*(1-2), 67–94. https://doi.org/10.1177/1471082X211033169

[4] De Nicola, G. (2021). On the intraday behavior of Bitcoin. *Ledger*, *6*, 58–80. https://doi.org/10.5195/ledger.2021.213

[3] Schneble, M., De Nicola, G., Kauermann, G., & Berger, U. (2021). A statistical model for the dynamics of COVID-19 infections and their case detection ratio in 2020. *Biometrical Journal*, *63*(8), 1623–1632. https://doi.org/10.1002/bimj.202100125

[2] Schneble, M., De Nicola, G., Kauermann, G., & Berger, U. (2021). Nowcasting fatal COVID-19 infections on a regional level in Germany. *Biometrical Journal*, *63*(3), 471–489. https://doi.org/10.1002/bimj.202000143

[1] Conti, E., Sgandurra, G., De Nicola, G., Biagioni, T., Boldrini, S., Bonaventura, E., Buchignani, B., Della Vecchia, S., Falcone, F., Fedi, C., et al. (2020). Behavioural and emotional changes during COVID-19 lockdown in an italian paediatric population with neurologic and psychiatric disorders. *Brain Sciences*, *10*(12), 918. https://doi.org/10.3390/brainsci10120918

Talks

- **17.07.2024** Nowcasting and forecasting register data. *Mini-symposium: Exploring disease patterns across space and time, LMU Munich, Germany*
- **29.06.2024** Dependence matters: Statistical models to identify the drivers of tie formation in economic

networks. *SUNBELT 2024, Edinburgh, Scotland, United Kingdom*

- **14.03.2024** Data science in society: Modeling network and public health data. *Seminar (invited), Faculty of Informatics, USI, Lugano, Switzerland*
- **09.08.2023** Estimating excess mortality in high income countries during the COVID-19 pandemic. *Joint Statistical Meetings (JSM) 2023, Toronto, Canada*
- **19.07.2023** A connected world: Data analysis for real-world network data. *Full day workshop (with C. Fritz and G. Kauermann), BERD Academy Series 2023, Garching, Germany*
- **15.03.2023** Dependence matters: Latent variable models for social and economic network analysis. *Seminar (invited), ifo Center for Industrial Organization and New Technologies, Munich, Germany*
- **13.12.2022** Estimating excess mortality in high income countries during the COVID-19 pandemic. *IMS International Conference on Statistics and Data Science (ICSDS) 2022, Florence, Italy*
- **8.12.2022** A connected world: Data analysis for real-world network data. *Full day workshop (with C. Fritz and G. Kauermann), BERD Academy Series 2022, Garching, Germany*
- **20.09.2022** Exploring the latent social space of COVID-19 Twitter elites. *Statistical Week 2022, Münster, Germany*
- **19.09.2022** Estimating excess mortality in high income countries during the COVID-19 pandemic. *Young Statisticians Workshop of the German Statistical Society 2022, Münster, Germany*
- **14.09.2022** Exploring the latent social space of COVID-19 Twitter elites. *EUSN Conference 2022, London, England, United Kingdom*
- **30.03.2022** Modelling large and dynamically growing bipartite networks - A case study in patent data (poster presentation, best poster award winner). *DAGStat Conference 2022, Hamburg, Germany*
- **10.07.2020** Nowcasting Fatalities and Surveillance of COVID-19 Infections on a Regional Level in Germany. *COSTNET COVID-19 Conference (Online), Munich, Germany*

VARIOUS

Memberships and Fellowships
I am a member of the IMS, the German Statistical Society and the COVID-19 Data Analysis Group (CODAG@LMU), as well as a fellow of the LMU Open Science Center.

Media Appearances
My research on COVID-19 excess mortality was featured in interviews with Nature, New Scientist and The New York Times, in addition to other German, Swiss, and Italian media and TV outlets.

LANGUAGE SKILLS

Italian	Native
English	Fluent (Cambridge English C2 Proficiency)
German	Fluent (Goethe Institute C2 Certificate)

REFERENCES

Göran Kauermann
Full Professor of Statistics
Ludwig Maximilian University of Munich
+49 89 2180 6253
goeran.kauermann@stat.uni-muenchen.de

Ursula Berger
Lecturer in Biostatistics and Epidemiology
Ludwig Maximilian University of Munich
+49 89 4400 77486
berger@ibe.med.uni-muenchen.de

Leonardo Grilli
Full Professor of Statistics
University of Florence
+39 055 2751 552
leonardo.grilli@unifi.it