GIACOMO DE NICOLA

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ACADEMIC EXPERIENCE

Harvard T.H. Chan School of Public Health, Harvard University — Sep 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.

GRANTS AND OTHER FUNDING

Developing Climate-Smart Public Health Systems in Nepal — Co-PI, $527,000
Amazon Web Services & Harvard Data Science Initiative — *Jul 2025-Jun 2027*

Estimating Protein and Caloric Inadequacy Globally — PI, $9,000
Global Alliance for Improved Nutrition — *Apr 2025-Jun 2025*

Mentoring Program Fellowship — Fellow, €3,000
LMU Munich program supporting excellent young scientists for international travel — *2023-2024*

RESEARCH

Current Research Interests

- Geo-spatial data science
- Statistical network analysis
- Statistical inference
- Climate and health pathways
- Excess mortality estimation
- Public health

Working Papers

Lead Author:

- "Spatiotemporal dynamics of harmful algal blooms and their impact on marine food poisoning in Madagascar." *(Manuscript in preparation).*
- "The global intersection of protein and caloric inadequacy." *(Analysis in progress).*
- "A causal inference framework for estimating the impact of soil moisture on malaria incidence in Madagascar." *(Analysis in progress).*
- "The seasonality of disease across climate zones in Madagascar." *(Project design and preliminary analysis).*

Co-Author:

- "A climate-smart public health research data platform for Madagascar."
- "The association of cyclonic storms with traumatic injuries and diarrheal illness in Madagascar."
- "The impact of food insecurity on mental health in coastal Madagascar."
- "Grocery vouchers to Inuit Elders during the COVID-19 pandemic associated with fewer meals accessed at an Arctic community food center in Canada"
- "An ecological time-series study of meteorological factors and dengue cases in Kathmandu."

Books

- "Statistics: Coping with Uncertainty." An introductory textbook on statistical inference with a data science spin. *(With Göran Kauermann, Cornelius Fritz, and David Rügamer - forthcoming, expected late 2025).*

Publications

[16] Golden, C. D., Childs, M. L., Mudele, O. E., Andriamizarasoa, F. A., Bouley, T. A., De Nicola, G., Fontaine, M. A., Huybers, P. J., Mahatante, P. T., Rabemananjara, R., Rakotoarison, N., Ramambason, H. R., Ramihantaniarivo, H., Randriamady, H. J., Randriatsara, H., Ravelomanantsoa, M. A., Razafinimanana, A. K. S., Rigden, A. J., Guillemot, J. S., ... Dominici, F. (2025). Climate-Smart Public Health for Global Health Resilience. *The Lancet Planetary Health (in print).*

[15] De Nicola, G. (2025). Discussion of "Some Statistical Aspects of the Covid-19 Response" by Wood et al. *Journal of the Royal Statistical Society, Series A: Statistics in Society*, qnaf102. https://doi.org/https://doi.org/10.1093/jrsssa/qnaf102

[14] De Nicola, G., & Kauermann, G. (2025). Estimating excess mortality in high-income countries during the COVID-19 pandemic. *Journal of the Royal Statistical Society, Series A: Statistics in Society*, *188*(1), 205–222. https://doi.org/https://doi.org/10.1093/jrsssa/qnae031

[13] Fritz, C., De Nicola, G., Rave, M., Weigert, M., Khazaei, Y., Berger, U., Küchenhoff, H., & Kauermann, G. (2024). Statistical modelling of COVID-19 data: Putting generalized additive models to work. *Statistical Modelling*, *24*(4), 344–367. https://doi.org/10.1177/1471082X221124628

[12] 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

[11] 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

[10] 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

[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

TEACHING

Classroom Teaching

- **Sole instructor and course designer** for *Advanced Statistical Modeling* (MSc Data Science, LMU Munich, 2019-2022).
- **Teaching Assistant** at LMU Munich for the following courses:
  - *Statistical Reasoning and Inference 1 & 2* (MSc Data Science, 2020-2023)
  - *Statistical Inference 1 & 2* (BSc Statistics, 2022-2024)
  - *Analysis of Longitudinal Data* (MSc Statistics, 2020-2021)
  - *Regression for Correlated Data* (MSc Statistics, 2022)

Research Supervision & Mentoring

- **Project Lead**, Capstone Project, Carnegie Mellon University: Leading a team of Computational Data Science master students in developing an early warning system for harmful algal blooms using remote sensing *(2025-2026)*.
- **Research Mentor**, Harvard University: Supervising a team of Harvard College undergraduates in a research project on the health risks of harmful algal blooms *(2025)*.
- **Thesis Co-Supervisor**, Harvard University & Berlin University Hospital: Co-supervised an MPH thesis on the spatiotemporal dynamics of harmful algal blooms and asthma in Madagascar *(2025)*.
- **Seminar Lead**, LMU Munich: Led multiple semester-long, project-based research courses for BSc and MSc students. Topics included Complex Networks, Social Network Analysis, COVID-19 Data, Political Networks, and Open Science in Statistics & Machine Learning *(2020-2024)*.
- **Thesis Supervisor**, LMU Munich: Supervised five individual BSc and MSc theses on topics related to statistical network analysis, mostly focusing on latent variable network models *(2020-2024)*.

Talks

- **03.08.2025** Harmful Algal Blooms and their impact on Marine Food Poisonings in Madagascar. *Joint Statistical Meetings (JSM) 2025, Nashville, TN, USA*
- **22.07.2025** Climate-Smart Public Health. *Full-day workshop (with C. Golden and H. Randriamady), Antananarivo, Madagascar*
- **16.06.2025** Data Science for Planetary Health. *Full-day focused tutorial (invited), LMU Munich, Germany*
- **09.05.2025** Harmful Algal Blooms and their impact on Marine Food Poisonings in Madagascar. *NSF AI-SDM Seminar (invited), Carnegie Mellon University, Pittsburgh, PA, USA*
- **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, Munich, Germany*

PUBLIC ENGAGEMENT & RESEARCH IMPACT

Professional Service
Peer review activity for *The Annals of Applied Statistics*, *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, *Royal Society Open Science*, *Scientific Reports*, *Environmental Research*, *BMC Public Health*, and the *International Journal of Biostatistics*.

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

Christopher Golden
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