

Giulio Valentino Dalla Riva

Statistics Advisor (Data Systems), Pacific Community · Founder, Baffelan
gvdallariva.net · me@gvdallariva.net · ORCID [0000-0002-3454-0633](https://orcid.org/0000-0002-3454-0633)

Giulio Valentino Dalla Riva. Italian and New Zealand citizen, based in Nouméa, New Caledonia.

I'm a Statistics Advisor (Data Systems) at the [Pacific Community](#). I look after [PDH .Stat](#), an SDMX data platform supporting evidence-based work across the Pacific island nations. I lead several AI-for-data-access projects, and I drive the adoption of a Data Governance practice in the division.

I founded and run [Baffelan](#), a boutique data-science consultancy that takes on data-science-for-good projects alongside paid work for organisations that want more from their data than a cookie-cutter answer can give them.

I was Director of Data Innovation at [Inverence](#), where I led a team of around ten people building [llull](#), an AI-integrated platform for [data discovery](#) and [data understanding](#) deployed at banks, large corporations, and a handful of government institutions, until the product was finally ready for market in September 2025.

Before all that I was a Senior Lecturer in Data Science at the University of Canterbury, where I led the DaRe Science research group, taught data wrangling, statistics, machine learning and ethics, and worked on AI and disinformation.

I trained as a mathematician (PhD Canterbury, MSc Trento). I work in Julia, R, and Python, and I like to put different things together and see what happens when they inevitably explode.

CURRENT ROLES

[Statistics Advisor \(Data Systems\)](#)

2024-04 – present

Pacific Community (SPC), Statistics for Development Division
Nouméa, New Caledonia

Product owner of [PDH .Stat](#), an SDMX data platform that supports evidence-based work across the Pacific island nations. I lead several AI-for-data-access projects (see Open source). I also drive the adoption of a Data Governance practice in the division and run training initiatives across the region.

[Founder, Head of Data Science](#)

2023-01 – present

Baffelan

Christchurch, New Zealand (remote)

A boutique data-science consultancy. Six people at peak across data engineering, data science, and dev-ops; today it scales with the work, mostly me with collaborators brought on per engagement. We take on data-science-for-good projects alongside consulting work for organisations that want more from their data than a cookie-cutter answer can give them.

PAST ROLES

[Director of Data Innovation](#)

2023-04 – 2025-09

Inverence

Madrid, Spain

Led a team of around ten people building [llull](#), an [AI-integrated platform](#) for data discovery and understanding, deployed at banks, large corporations, and a handful of government institutions. Set the wider data and AI strategy across forecasting, optimisation, counterfactual analysis and anomaly detection with Bayesian statistics. The engagement concluded in September 2025 when llull was ready for market.

University of Canterbury

2018-07 – 2025-09

Senior Lecturer in Data Science

2021-01 – 2025-09

School of Mathematics and Statistics

Christchurch, New Zealand

Led the DaRe Science research group: around twenty people, from undergraduates to PhD students to a few early-career academics. The group published about fifty papers (many without my name on them, by design), gave talks at conferences and broader-audience events, and secured around USD 5 million in grants from the

Andrew W. Mellon Foundation, Facebook, the New Zealand Government, and other partners. We worked across academic, industry, government, and grass-roots collaborations. With [Te Pūnaha Matatini](#), contributed to the COVID-19 response that won the 2020 Prime Minister's Science Prize, including a New-Zealand-Government-commissioned platform that monitored medical disinformation online and reported into the Prime Minister's Cabinet. Ran a joint medical-ML team for early detection of post-operative critical issues. Taught data wrangling, ethics, statistics, machine learning, and network analysis.

Lecturer in Data Science 2018-07 – 2020-12
Christchurch, New Zealand

University of British Columbia 2016-04 – 2018-06

Postdoctoral Teaching Fellow, Data Science 2017-01 – 2018-06
Vancouver, Canada

Managed data science projects with corporate, government and academic partners. Taught Web and Cloud Computing; Privacy, Ethics, and Security; Causal Inference and Experiment Design; and Data Management for Business Analytics.

Postdoctoral Research Fellow 2016-04 – 2017-03
Vancouver, Canada

Analysis of complex cultural and natural networks. Designed and supervised network scientific databases.

Earlier (journalism, cultural organising, consultancy) 2004 – 2012

Trento and Rovereto, Italy

Before moving into mathematics research, I worked in Trento and Rovereto across journalism, cultural organising, science communication, teaching, and consultancy. Writer or contributor at three local newspapers (L'Adige, Il Trentino, QuestoTrentino) and co-founder of the online newspaper ilcorsaro. Director of the Universitando student cultural association for six years; co-founder of TEDxRovereto. Workshop facilitator for Editoriale Scienza / Giunti, and teacher of at-risk high-school students through the European Social Fund. Marketing and grant-writing consultancy at Innovie, The Hub Rovereto, and Delta Servizi, including coordinating a European FP7 proposal. Data work at IRVAPP, the Trentino public-policy institute. A personal-brand freelance practice (gvdr, data narration and marketing) ran in parallel from 2009 through 2023.

EDUCATION

PhD, Mathematics 2013 – 2016

University of Canterbury

Christchurch, New Zealand

A mathematical framework for the relationship between ecological interactions and evolutionary histories. Supervised by Mike Steel, Charles Semple, and Daniel Stouffer.

Master's degree, Teaching and Communication of Mathematical Science 2009 – 2012

Università degli Studi di Trento

Trento, Italy

Awarded 110/110 cum laude.

Erasmus, Mathematics 2008 – 2009

Université Pierre et Marie Curie (Paris VI)

Paris, France

Bachelor's degree, Mathematics 2004 – 2009

Università degli Studi di Trento

Trento, Italy

AWARDS

Prime Minister's Science Prize, New Zealand

2020

with Te Pūnaha Matatini

Recognised for the team's contribution to Aotearoa New Zealand's COVID-19 response.

SERVICE AND COMMUNITY

[External co-founder, Digital Democracies Institute](#)

2020 – 2024

Simon Fraser University

Co-founded the [Digital Democracies Institute](#) from outside Simon Fraser, alongside the SFU-based core. Principal Investigator on the Institute's [Data Fluencies](#) project, funded by the Andrew W. Mellon Foundation: contributed to the winning proposal and led work on the project for three years, until moving to SPC.

Founding member, Data4Democracy

2016 – 2019

Co-founded a grass-roots network that grew to 1,200 data scientists. Contributed an Amicus brief on gerrymandering and helped write the Global Data Ethics Pledge.

Contributor, The Carpentries (Software Carpentry, Data Carpentry)

2017 – 2019

Contributed to community-maintained teaching materials, including the shell-genomics lesson and the R-for-reproducible-scientific-analysis lesson.

OPEN SOURCE

[SDMXer.jl](#)

github.com/Baffelan/SDMXer.jl

A Julia library for working with SDMX, the international standard for statistical data exchange.

[SDMXerWizard.jl](#)

github.com/Baffelan/SDMXerWizard.jl

An AI-integrated layer over SDMXer.jl for natural-language access to statistical data.

[SDMX MCP Gateway](#)

github.com/Baffelan/sdmx-mcp-gateway

A Model Context Protocol server exposing SDMX .Stat endpoints to AI agents.

[SDMX Surfer](#)

github.com/PacificCommunity/sdmx-surfer

A browser-based explorer for SDMX statistical datasets, built at SPC for the Pacific Data Hub.

[AI-based modelling tool](#)

gitlab.com/sis-cc/experiments/ai-based-modelling-tool

A cross-institution experiment with StatsNZ, the OECD, and the ILO exploring how AI can support official-statistics modelling. Most contributions on a personal branch.

[llm_evo_veridicity](#)

github.com/gvdr/llm_evo_veridicity

Code and simulations supporting **Task Ecologies and the Evolution of World-Tracking Representations in Large Language Models** (arXiv 2604.05469).

[idpg](#)

github.com/gvdr/idpg

Simulations supporting **Intensity Dot Product Graphs** (arXiv 2604.07810).

SKILLS AND LANGUAGES

Programming

Expert in Julia and R. Advanced Python. Comfortable in Rust, TypeScript, and SQL.

Data and cloud

Data modelling, data governance, SDMX. JuliaHub, Git, HPC. AWS, Azure, BigQuery.

Languages

Italian (native). English, French, and Spanish (fluent). Japanese (early beginner).

PUBLICATIONS

- PREPRINT Giulio Valentino Dalla Riva. [Random Dot Product Graphs as Dynamical Systems: Limitations and Opportunities](#) . *arXiv* , 2026 . (featured)
- PREPRINT Giulio Valentino Dalla Riva. [Task Ecologies and the Evolution of World-Tracking Representations in Large Language Models](#) . *arXiv* , 2026 . (featured)
- PREPRINT Giulio Valentino Dalla Riva. [Between Interface and Truth: Multi-Task Selection Drives Ecologically Veridical Perception](#) . *EcoEvoRxiv* , 2026 .
- PREPRINT Giulio Valentino Dalla Riva, Matteo Dalla Riva. [Intensity Dot Product Graphs](#) . *arXiv* , 2026 .
- PREPRINT Sage Anastasi, Giulio Valentino Dalla Riva. [Schelling segregation dynamics in densely-connected social network graphs](#) . *arXiv* , 2025 .
- PREPRINT Sage Anastasi, Giulio Valentino Dalla Riva. [Measuring changes in polarisation using Singular Value Decomposition of network graphs](#) . *arXiv* , 2024 .
- JOURNAL Giulio Valentino Dalla Riva, Shaun C. Hendy, K J Ross, Andrew Sporle. [Building sustainable health data capability in Aotearoa New Zealand: opportunities and challenges highlighted through COVID-19](#) . *Journal of the Royal Society of New Zealand* , 2023 .
- JOURNAL Tanya Strydom, Salomé Bouskila, Francis Banville, ..., Giulio Valentino Dalla Riva, et al. [Graph embedding and transfer learning can help predict potential species interaction networks despite data limitations](#) . *Methods in Ecology and Evolution* , 2023 .
- PREPRINT Timothée Poisot, Giulio Valentino Dalla Riva, Philippe Desjardins-Proulx, Alexandra Sasha Luccioni. [The future of ecological research will not be \(fully\) automated](#) , 2023 .
- PREPRINT Sage Anastasi, Giulio Valentino Dalla Riva. [The Process of Polarisation as a Loss of Dimensionality](#) . *SSRN Electronic Journal* , 2023 .
- JOURNAL Rogini Runghen, Cristina Llopis-Belenguer, M.R. McNeill, Giulio Valentino Dalla Riva, Daniel B. Stouffer. [Using network analysis to study and manage human-mediated dispersal of exotic species](#) . *Biological Invasions* , 2023 .
- JOURNAL Gabriele Etta, Alessandro Galeazzi, Jamie Ray Hutchings, ..., Giulio Valentino Dalla Riva. [COVID-19 infodemic on Facebook and containment measures in Italy, United Kingdom and New Zealand](#) . *PLoS ONE* , 2022 .
- JOURNAL Tara McAllister, Giulio Valentino Dalla Riva. [Does the Ministry of Business, Innovation and Employment's Endeavour Fund deliver on diversity?](#) . *Journal of the Royal Society of New Zealand* , 2022 .
- JOURNAL Rogini Runghen, Daniel B. Stouffer, Giulio Valentino Dalla Riva. [Exploiting node metadata to predict interactions in bipartite networks using graph embedding and neural networks](#) . *Royal Society Open Science* , 2022 .

- JOURNAL Tanya Strydom, Salomé Bouskila, Francis Banville, ..., Giulio Valentino Dalla Riva, et al. [Food web reconstruction through phylogenetic transfer of low-rank network representation](#) . *Methods in Ecology and Evolution* , 2022 .
- JOURNAL Tanya Strydom, Giulio Valentino Dalla Riva, Timothée Poisot. [SVD Entropy Reveals the High Complexity of Ecological Networks](#) . *Frontiers in Ecology and Evolution* , 2021 . (featured)
- PREPRINT Aurelia Wilberforce, Giulio Valentino Dalla Riva. [A Cartography of Differential Gene Methylation in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Different Network Roles in the Protein-Protein Interactions Network Play Different, Biologically Relevant, Roles](#) . *bioRxiv (Cold Spring Harbor Laboratory)* , 2021 .
- JOURNAL Francesco Giovinazzo, Ralph Linneman, Giulio Valentino Dalla Riva, Daniele Greener, C Morano, et al. [Clinical relevant pancreatic fistula after pancreatoduodenectomy: when negative amylase levels tell the truth](#) . *Updates in Surgery* , 2021 .
- JOURNAL Francesco Giovinazzo, Ralph Linneman, Giulio Valentino Dalla Riva, Daniele Greener, C Morano, et al. [Correction to: Clinical relevant pancreatic fistula after pancreatoduodenectomy: when negative amylase levels tell the truth](#) . *Updates in Surgery* , 2021 .
- JOURNAL Paul Benden, Alan Feng, Chris Owell, Giulio Valentino Dalla Riva. [Crime at Sea: A Global Database of Maritime Pirate Attacks \(1993–2020\)](#) . *Journal of Open Humanities Data* , 2021 .
- JOURNAL Alessandro Vitale, Gianluca Svegliati-Baroni, Alessio Ortolani, ..., Giulio Valentino Dalla Riva, et al. [Epidemiological trends and trajectories of MAFLD-associated hepatocellular carcinoma 2002–2033: the ITA.LI.CA database](#) . *Gut* , 2021 .
- DATASET Kevin Wang, Paul Yacobellis, Erika Siregar, ..., Giulio Valentino Dalla Riva, et al. [learningtower: OECD PISA Datasets from 2000-2022 in an Easy-to-Use Format](#) , 2021 .
- JOURNAL D. Matthias Dehling, Giulio Valentino Dalla Riva, Matthew C. Hutchinson, Daniel B. Stouffer. [Niche Packing and Local Coexistence in a Megadiverse Guild of Frugivorous Birds Are Mediated by Fruit Dependence and Shifts in Interaction Frequencies](#) . *The American Naturalist* , 2021 .
- JOURNAL Martin Schweinsberg, Michael B. Feldman, Nicola Staub, ..., Giulio Valentino Dalla Riva, et al. [Same data, different conclusions: Radical dispersion in empirical results when independent analysts operationalize and test the same hypothesis](#) . *Organizational Behavior and Human Decision Processes* , 2021 .
- JOURNAL Francesco Giovinazzo, A.W. Avolio, Federica Galiandro, ..., Giulio Valentino Dalla Riva, et al. [Solid Organ Transplantation During COVID-19 Pandemic: An International Web-based Survey on Resources' Allocation](#) . *Transplantation Direct* , 2021 .
- PREPRINT Daniel B. Stouffer, Óscar Godoy, Giulio Valentino Dalla Riva, Margaret M. Mayfield. [The dimensionality of plant–plant competition](#) . *bioRxiv (Cold Spring Harbor Laboratory)* , 2021 .
- JOURNAL Alyssa R. Cirtwill, Giulio Valentino Dalla Riva, Nick J. Baker, Mikael Ohlsson, Isabelle Norström, et al. [Related plants tend to share pollinators and herbivores, but strength of phylogenetic signal varies among plant families](#) . *New Phytologist* , 2020 .
- OTHER Florent Mazel, Matthew W. Pennell, Marc W. Cadotte, ..., Giulio Valentino Dalla Riva, et al. [Author Correction: Prioritizing phylogenetic diversity captures functional diversity unreliably](#) . *Nature Communications* , 2019 .
- JOURNAL Juan L. Cantalapiedra, Tracy Aze, Marc W. Cadotte, ..., Giulio Valentino Dalla Riva, et al. [Conserving evolutionary history does not result in greater diversity over geological time scales](#) . *Proceedings of the Royal Society B Biological Sciences* , 2019 .
- LETTER Florent Mazel, Matthew W. Pennell, Marc W. Cadotte, ..., Giulio Valentino Dalla Riva, et al. [Reply to: “Global conservation of phylogenetic diversity captures more than just functional diversity”](#) . *Nature Communications* , 2019 .

- JOURNAL Bernat Bramon Mora, Giulio Valentino Dalla Riva, Daniel B. Stouffer. [Unmasking structural patterns in incidence matrices: an application to ecological data](#) . *Journal of The Royal Society Interface* , 2019 .
- JOURNAL Florent Mazel, Matthew W. Pennell, Marc W. Cadotte, ..., Giulio Valentino Dalla Riva, et al. [Prioritizing phylogenetic diversity captures functional diversity unreliably](#) . *Nature Communications* , 2018 . (featured)
- JOURNAL Francesco Giovinazzo, Giulio Valentino Dalla Riva, Daniele Greener, C Morano, Ralph Linneman, et al. [A learning machine method to predict Post-operative Pancreatic Fistula after pancreaticoduodenectomy based on amylases value in the drains: a multicentre database analysis of 1638 patients](#) . *HPB* , 2018 .
- REVIEW Alyssa R. Cirtwill, Giulio Valentino Dalla Riva, Marília Palumbo Gaiarsa, Malyon D. Bimler, E. Fernando Cagua, et al. [A review of species role concepts in food webs](#) . *Food Webs* , 2018 .
- JOURNAL Eva Delmas, Mathilde Besson, Marie-Hélène Brice, ..., Giulio Valentino Dalla Riva, et al. [Analysing ecological networks of species interactions](#) . *Biological reviews/Biological reviews of the Cambridge Philosophical Society* , 2018 .
- JOURNAL Edwin M. Knorr, Giulio Valentino Dalla Riva, Orlin Vakarelov. [Anatomy of a New Data Science Course in Privacy, Ethics, and Security](#) , 2018 .
- JOURNAL Florent Mazel, Arne Ø. Mooers, Giulio Valentino Dalla Riva, Matthew W. Pennell. [Conserving Phylogenetic Diversity Can Be a Poor Strategy for Conserving Functional Diversity](#) . *Systematic Biology* , 2017 .
- JOURNAL Giulio Valentino Dalla Riva. [Geolocalization of IATA Codes \[R package whereport version 0.1\]](#) , 2017 .
- JOURNAL Giulio Valentino Dalla Riva, Daniel B. Stouffer. [Exploring the evolutionary signature of food webs' backbones using functional traits](#) . *Oikos* , 2015 .
- JOURNAL Giulio Valentino Dalla Riva, D. B. Stouer. [STOCHASTICITY AND EVOLUTION IN FOOD WEBS](#) , 2014 .