Elliot Gould

they/them, he/him

- ▶ PhD Candidate
- ▶ Research Assistant & Consultant
- ▶ Tutor / Demonstrator

Contact

- 📍 Melbourne, Australia
- 📞 +61 406680382
- ✉ elliot.gould@unimelb.edu.au
- ⓘ egouldo

Education

December 2017 - Present

Doctor of Philosophy, Science

University of Melbourne

Thesis: "Reproducibility and Transparency of Ecological Models in Applied Ecology and Conservation Science"

2012 - 2015

Master of Science (Distinction)

University of Melbourne

Thesis: "Managing Grasslands with Models: Resolving uncertainty and allocating effort among a suite of sites."

2005 - 2011

Bachelor of Science

University of Melbourne

Major in Ecology, First Class Honours Average.

2005 - 2011

Bachelor of Arts

University of Melbourne

Major in Indonesian, First Class Honours Average.

Summary

"Elliot Gould is a PhD candidate at the School of Agriculture, Food and Ecosystem Sciences, and a Quantitative Research Assistant on the repliCATS project at the School of History and Philosophical Studies, University of Melbourne. Their PhD investigates the transparency and reproducibility of ecological models in applied ecology and conservation decision-making. Elliot's research seeks to use data science techniques to advance the open-science movement by improving transparency and reproducibility, focussing on ecology and conservation Science. Elliot has an enthusiasm for teaching and skill-sharing, particularly with regard to building a strong community of practice in emerging open-science methodology and computational biology within ecology and conservation. Other research interests include decision-theory, Structured Decision Making, and plant ecology (especially grassy woodlands & grasslands of the Victorian Volcanic Plains)."

Research Experience

Consultant Ecological Modeller
2020 - Present

Department of Environment Land Water and Planning
Victorian Government

This research consultancy comprises a component of my PhD, aiming to test and develop preregistration templates for ecology and conservation using a case study of environmental flows management in Victoria, Australia. I designed and delivered a collaborative workshop with DEECA staff, analysed and visualised environmental flow and modelled vegetation outcome data.

Quantitative Research Assistant - repliCATS, SCORE Program
2019 - 2025

School of Historical and Philosophical Studies, School of BioSciences, University of Melbourne

Systematising Confidence in Open Research and Evidence (SCORE) is a Research Program initiated by the Defense Advanced Research Projects Agency (DARPA) that aimed to develop and deploy automated tools to assign 'confidence scores' to Social and Behavioural research results and claims in light of recent evidence about the 'Replication Crisis' besetting Science. In this role, I lead a small team within the repliCATS project team to build data analysis software and infrastructure to manage and deliver data products to internal teams and external partners. Research components of the role include modelling to investigate predictors of replication success.

Research Assistant, Various Roles
2015 - Present

School of BioSciences, School of Geography
University of Melbourne

I contributed to various plant ecology and Structured Decision Making research projects for the National Environmental Science Programme, Threatened Species Recovery Hub, including: data analysis and visualisations, building shiny apps, model building and testing, report writing.

Service

2023 - Present

Preregistration Template Working Group Member

Centre for Open Science

The Preregistration Template Working Group seeks to: 1. Establish criteria to evaluate the suitability of new preregistration templates for inclusion in the Open Science Framework (OSF); 2. Develop a procedure by which community creators of preregistration templates can put templates forward for inclusion in OSF; 3. Advise and inform COS on issues related to preregistration implementation in OSF.

2020 - 2023

Founding Member, Secretary / Treasurer

Society for Open, Reliable, and Transparent Ecology and Evolutionary Biology (SORTEE)

SORTEE is a service organization which brings together researchers working to improve reliability and transparency through cultural and institutional changes in ecology, evolutionary biology, and related fields broadly defined.

Talks & Workshops

2024

Invited Speaker and Panellist: Data Bites

Melbourne Centre for Data Science

Reproducibility in Practice: Modelling in Ecology, Evolutionary Biology and Conservation Science.

2022

Invited Speaker: Mini Note Panel

Association for Interdisciplinary Metaresearch and Open Science (AIMOS) Conference

Teaching Experience

Demonstrator, Tutor — 2012 - 2024

University of Melbourne

- **Environmental Risk Assessment** 2016, 2017, 2018, 2022, 2023, 2024
- **Vegetation Management & Conservation** 2018, 2019
- **Applied Ecology** 2014, 2015
- **Biology of Cells & Organisms** 2012, 2013, 2014, 2015

Guest Lecturer — 2021 - 2024

University of Melbourne

- **Environmental Risk Assessment** 2024
- **Biometry** 2023
- **Critical Thinking with Data** 2021

Learning Module Design & Delivery: Vegetation Management & Conservation — 2019

School of BioSciences, University of Melbourne

I codeveloped a teaching and learning module, and developed and delivered a workshop teaching the basics of datascience in R using data collected by the students.

Scholarships and Awards

Science Abroad Travelling Scholarships, 2023

University of Melbourne, Faculty of Science, School of Ecosystem and Forest Sciences

This scholarship supports PhD students in the Faculty of Science undertaking travel to attend conferences, fieldwork, etc. as part of a Study Away request. Awarded AUD$2000.

Metascience 2023 travel award

Metascience Conference 2023, Washington D.C.

USD$300 travel award to attend the Metascience 2023 conference.

AIMOS top-up scholarship, 2022

Association for Interdisciplinary Metaresearch and Open Science (AIMOS)

AIMOS will award up to four top-up scholarships per year to PhD or Masters students working on a meta-research project.

Research Excellence Award for Interdisciplinary Research (Group Award), 2022

University of Melbourne

Nominees will have been collaborators in interdisciplinary research of outstanding influence, that is, the establishment of new, or advancing of existing, collaborations and programs that draw on multiple disciplines typically involving multiple faculties or schools.

Many Analysts: Heterogeneity in Results Among Studies in Ecology and Evolutionary Biology.

2022

SORTEE Workshop Series

Society for Open Reproducible Transparent Ecology and Evolutionary Biology
Creating Reproducible Workflows in R with the 'targets::' package.

2020

Model Based Research and Reproducibility Workshop

Center for Open Science

Preregistration Templates for Model-Based Research.

Melbourne Centre of Data Science Doctoral Academy Fellow, 2021
Melbourne Centre for Data Science, University of Melbourne

The MCDS Doctoral Academy aims to bring together a campus wide multidisciplinary cohort of PhD students (MCDS Doctoral Academy Fellows) to share their research, domain challenges and thoughts around the use, implementation and application of data science in their fields.

Australian Government Research Training Program (RTP) Scholarship, 2017
The University of Melbourne

Awarded to high-achieving students undertaking graduate research at the University of Melbourne.

Publications

Gould, E., Fraser, H., Parker, T., Nakagawa, S., Griffith, S., Vesk, P., Fidler, F., et al. (2024). Same data, different analysts: Variation in effect sizes due to analytical decisions in ecology and evolutionary biology [Preprint, Accepted for publication at BMC Biology]. Ecology and Evolutionary Biology. doi.org/10.32942/X2GG62

Good, M. K., Rumpff, L., Fraser, H., **Gould, E.**, Jones, C. S., Prober, S. M., Bourne, M., Butt, N., Byrne, M., Duncan, D. H., Gorrod, E., Gosper, C. R., Jordan, R., McIntyre, S., Moore, J. L., Nerenberg, S., Pulsford, S., Richards, A. E., Rogers, D. J., . . . Vesk, P. A. (2024). A structured approach for building multicommunity State and Transition Models to support conservation planning. Journal of Applied Ecology, 61(9), 2294–2307. doi.org/10.1111/1365-2664.14718

Nakagawa, S., Ivimey-Cook, E. R., Grainger, M. J., O'Dea, R. E., Burke, S., Drobniak, S. M., **Gould, E.**, Macartney, E. L., Martinig, A. R., Morrison, K., Paquet, M., Pick, J. L., Pottier, P., Ricolfi, L., Wilkinson, D. P., Willcox, A., Williams, C., Wilson, L. A. B., Windecker, S. M., . . . Lagisz, M. (2023). Method Reporting with Initials for Transparency (MeRIT) promotes more granularity and accountability for author contributions. Nature Communications, 14(1), 1788. doi.org/10.1038/s41467-023-37039-1

Ivimey, E. R., Pick, J. L., Bairos, K. R., Culina, A., **Gould, E.**, Grainger, M., Marshall, B. M., Moreau, D., Paquet, M., Royauté, R., Sánchez, A., Silva, I., & Windecker, S. M. (2023). Implementing code review in the scientific workflow: Insights from ecology and evolutionary biology. Journal of Evolutionary Biology. doi.org/10.1111/jeb.14230

Jones, C. S., Thomas, F. M., Michael, D. R., Fraser, H., **Gould, E.**, Begley, J., Wilson, J., Vesk, P. A., & Rumpff, L. (2023). What state of the world are we in? Targeted monitoring to detect transitions in vegetation restoration projects. Ecological Applications, 33(1), e2728. doi.org/10.1002/eap.2728

Fraser, H., Bush, M., Wintle, B. C., Mody, F., Smith, E. T., Hanea, A. M., **Gould, E.**, Hemming, V., Hamilton, D. G., Rumpff, L., Wilkinson, D. P., Pearson, R., Singleton Thorn, F., Ashton, R., Willcox, A., Gray, C. T., Head, A., Ross, M., Groenewegen, R., . . . Fidler, F. (2023). Predicting reliability through structured expert elicitation with the repliCATS (Collaborative Assessments for Trustworthy Science) process. PLOS ONE, 18(1), e0274429. doi.org/10.1371/journal.pone.0274429

O'Dea, R. E., Parker, T. H., Chee, Y. E., Culina, A., Drobniak, S. M., Duncan, D. H., Fidler, F., **Gould, E.**, Ihle, M., Kelly, C. D., Lagisz, M., Roche, D. G., Sánchez-Tójar, A., Wilkinson, D. P., Wintle, B. C., & Nakagawa, S. (2021). Towards open, reliable, and transparent ecology and evolutionary biology. BMC Biology, 19(1). doi.org/10.1186/s12915-021-01006-3

Hanea, A. M., Wilkinson, D. P., McBride, M., Lyon, A., Van Ravenzwaaij, D., Singleton Thorn, F., Gray, C., Mandel, D. R., Willcox, A., **Gould, E.**, Smith, E. T., Mody, F., Bush, M., Fidler, F., Fraser, H., & Wintle, B. C. (2021). Mathematically aggregating experts' predictions of possible futures. PLOS ONE, 16(9), e0256919. doi.org/10.1371/journal.pone.0256919

Good, M., Fraser, H., **Gould, E.**, Vesk, P., Rumpff, L., 2021. A practical guide for conservation planning using the General Ecosystem Model for Southern Australian Woodlands. NESP Threatened Sprecies Recovery Hub Project 7.2, Brisbane.