

EMI TANAKA

WORK EXPERIENCE

- **Lecturer**
Monash University,
Department of Econometrics and Business Statistics
2020/01 - current
- **Lecturer**
The University of Sydney,
School of Mathematics and Statistics
2017/01 - 2019/12
- **Research fellow**
University of Wollongong,
School of Mathematics and Applied Statistics
2014/01 - 2017/01

EDUCATION

PhD, Statistics

Statistical Methods for Improving Motif Evaluation

Supervisor: Dr. Uri Keich

School of Mathematics and Statistics

The University of Sydney, Sydney, Australia, 2015

Bachelor of Science (Advanced Mathematics), Honours I

Major in Mathematics and Statistics

The University of Sydney, Sydney, Australia, 2010

PUBLICATIONS

1. Morota, G, Cheng, H, Cook, D, & Tanaka, E (2021) ASAS-NANP SYMPOSIUM: Prospects for interactive and dynamic graphics in the era of data-rich animal science. *Journal of animal science*, 99(2). *Citations: 1.*
2. Tanaka, E (2020) Simple outlier detection for a multi-environmental field trial. *Biometrics*, 76(4), 1374-1382. *Citations: 3.*
3. Tanaka, E & Hui, F (2019) Symbolic formulae for linear mixed models. *Statistics and data science*, 3-21
4. Hui, F, Tanaka, E, & Warton, D (2018) Order selection and sparsity in latent variable models via the ordered factor LASSO. *Biometrics*, 74(4), 1311-1319. *Citations: 10.*
5. Norman, A, Taylor, J, Tanaka, E, Telfer, P, Edwards, J, Martinant, J, & Kuchel, H (2017) Increased genomic prediction accuracy in

Contact

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🔗 github.com/emitanaka

🐦 [@statsgen](https://twitter.com/statsgen)

For more information, please
contact me via email.

Skills

Expert: R, HTML/CSS, LaTeX

Intermediate: Git/GitHub, Python,
Bash, JS

Languages: English (fluent) and
Japanese (conversational)

Interests

Research: experimental design,
mixed models, data visualisation,
bioinformatics, statistical genetics,
selective breeding

Non-Research: drawing (but not
good at it), reading (manga,
manhwa and non-fiction books)

*This resume was made with the R package
pagedown.
Last updated on 2021-08-02.*

wheat breeding using a large australian panel. *Theoretical and applied genetics*, 130(12), 2543-2555. *Citations*: 17.

6. Tanaka, E, Ral, J, Li, S, Gaire, R, Cavanagh, C, Cullis, B, & Whan, A (2017) Increased accuracy of starch granule type quantification using mixture distributions. *Plant methods*, 13, 107. *Citations*: 4.
7. Tanaka, E (2014) Statistical methods for improving motif evaluation. *PhD Thesis*
8. Tanaka, E, Bailey, T, & Keich, U (2014) Improving MEME via a two-tiered significance analysis. *Bioinformatics*, 30(14), 1965-1973. *Citations*: 17.
9. Liachko, I, Tanaka, E, Cox, K, Chung, S, Yang, L, Seher, A, Hallas, L, Cha, E, Kang, G, Pace, H, Barrow, J, Inada, M, Tye, B, & Keich, U (2011) Novel features of ARS selection in budding yeast *lachancea kluyveri*. *BMC genomics*, 12, 633. *Citations*: 23.
10. Tanaka, E, Bailey, T, Grant, C, Noble, W, & Keich, U (2011) Improved similarity scores for comparing motifs. *Bioinformatics*, 27(12), 1603-1609. *Citations*: 51.

Citation counts are sourced from Google Scholar at 2021-08-02.

SOFTWARE

edibble

An R-package that implements the grammar of experimental design.

Creator and maintainer. GitHub stars: 141

 Source: <https://github.com/emitanaka/edibble>

 Documentation: <https://edibble.emitanaka.org>

anicon

An R-package to insert animated icons for R markdown and Shiny apps.

Creator. GitHub stars: 116

 Source: <https://github.com/emitanaka/anicon>

nestr

An R-package to build hierarchical or nested structures.

Creator and maintainer. GitHub stars: 12


 Source: <https://github.com/emitanaka/nestr>

 Documentation: <https://nestr.emitanaka.org>

monash

A utility R-package with consolidated tools and templates for staffs at Monash University.

Creator and maintainer. GitHub stars: 3

 Source: <https://github.com/numbats/monash>

xaringan

An R package for creating slideshows with remark.js through R Markdown.

Contributor. My contribution is the adaptation of the ninja-theme shown in the Documentation. GitHub stars: 1223

🔗 Source: <https://github.com/yihui/xaringan>

🔗 Documentation: <https://github.com/emitanaka/ninja-theme>

📊 gghdr

Plots of highest density regions (HDR) for ggplot2.

Listed as author but my contribution is small. GitHub stars: 35

🔗 Source: <https://github.com/ropenscilabs/gghdr>

🔗 Documentation: <https://ropenscilabs.github.io/gghdr>

📊 shinycustomloader

Add a custom loader for R shiny.

Creator. GitHub stars: 101

🔗 Source: <https://github.com/emitanaka/shinycustomloader>

📊 datalegreyar

Datalegreya, the typeface that melts text and data visualisation, for R markdown.

Creator. GitHub stars: 39

🔗 Source: <https://github.com/emitanaka/datalegreyar>

🔗 Tomtom

A motif comparison tool part of the MEME Suite.

The -incomplete-scores is an implementation as a result of Tanaka et al. (2011).

🔗 Documentation: <https://meme-suite.org/meme/doc/tomtom.html>

💬 TALKS

List of talks (and links to the slides if available) are at <https://emitanaka.org/talks.html>.

Below show the last 10 talks.

• Visual Inference

FukuokaR

2021-03-27

• The Grammar of Experimental Design

TokyoR

2021-01-23

• Advent of “Grammar”: Bridging Statistics and Data Science for the Design of Experiments

Statistical Society of Australia

2020-11-27

• Rethinking the framework to specify the design of experiments

Department of Agriculture and Fisheries, Queensland

2020-11-11

- **What every young statistician should know:
Developing your identity, networking and marketing**
Statistical Society of Australia Western Australian Branch
2020-09-30
- **Advent of “Grammar”: Bridging Statistics and Data
Science for the Design of Experiments**
Monash Bioinformatics Seminar
2020-07-15
- **Beyond Beamer: Modern and Dynamic Presentations
with R Markdown**
Statistical Society of Australia Canberra & NSW Branch
2020-06-23
- **Software design, selection and estimation for latent
variable models**
WOMBAT
2019-11-28
- **Symbolic model formulae for linear mixed models
illustrated with the analysis of agricultural data**
Department of Mathematics and Statistics, Macquarie University
2019-10-15
- **Symbolic model formulae for linear mixed models
illustrated with the analysis of agricultural data**
Research School of Finance, Actuarial Studies and Statistics,
Australian National University
2019-09-16







WORKSHOPS

Workshop	Date	Location	Host
Data Visualisation with R	15-16 Apr 2021	Online	Statistical Society of Australia, Canberra Branch
Data Wrangling with R	1-2 Dec 2020	Online	Statistical Society of Australia, NSW Branch
Data Visualisation with R	11-12 Nov 2020	Online	Statistical Society of Australia, Victoria Branch
Data Visualisation with R	28-29 Jul 2020	Online	Statistical Society of Australia, Victoria Branch
Tidyverse & R Markdown	1 Dec 2019	Adelaide	International Biometrics Society, Australasia Region
Building R Packages & R Markdown	19 Nov 2019	Melbourne	Statistical Society of Australia, Victoria Branch
Communicating with Data via R Markdown	4 Oct 2019	Sydney	COMBINE (subcommittee of ABACBS)
Gaining skills in biostatistical consultancy	4 Jul 2019	Melbourne	Statistical Society of Australia, Biostatistics Section
Statistical Methods for Omics Assisted Breeding	12-15 Nov 2018	Tokyo	University of Tokyo

TEACHING

Course ID	Course	University	Semester	Median student evaluation score
ETC5521	Exploratory Data Analysis	Monash	2020 S2	4.82 / 5
ETC5523	Communicating with Data	Monash	2020 S2	4.88 / 5
ETC5512	Wild-Caught Data	Monash	2020 S1	4.61 / 5
STAT3012	Applied Linear Models	Sydney	2019 S1	—
STAT3012	Applied Linear Models	Sydney	2018 S1	—
STAT5002	Introduction to Statistics	Sydney	2018 S1	—
STAT3012	Applied Linear Models	Sydney	2017 S1	—
STAT5002	Introduction to Statistics	Sydney	2017 S1	—
STAT906	Experimental Design	Wollongong	2016 S2	—

SERVICE

-  **President**
 Statistical Society of Australia, Victoria Branch
 2021/03-ongoing
-  **Vice President**
 Statistical Society of Australia, Victoria Branch
 2023/03-2024/03
-  **Assistant Secretary**
 Statistical Society of Australia, NSW Branch
 2017/03-2018/03
-  **Secretary**
 Statistical Society of Australia, NSW Branch
 2018/03-2020/03
-  **Social Media Coordinator**
 International Biometrics Society, Australasian Region
 2018/01-ongoing
-  **Member**
 useR! 2021, Program Committee
 2021/03-2021/03

PROFESSIONAL MEMBERSHIPS

- Statistical Society of Australia

- International Biometrics Society

AWARDS & DISTINCTIONS

- **ARC Centre of Excellence**

Associate Investigator

ARC Centre of Excellence for Mathematical and Statistical Frontiers (ACEMS)

2020

- **ARC Industrial Transformation Training Centre**

Chief Investigator

Data Analytics for Resources and Environments (DARE)

2019

\$3,973,202

- **R Consortium Grant**

Lead Investigator

Symbolic Formulae for Linear Mixed Models

2019

\$6,000

- **Sydney Institute of Agriculture Research Project Grant**

Chief Investigator

Land surface models of carbon and water do not work in agricultural landscapes where it actually matters they work

2018

\$90,000

- **Faculty of Science Research Equipment and Infrastructure Scheme**

Chief Investigator

Sydney bioinformatics and biometrics big data research server

2018

\$36,040