

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), Honour 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: 4.*
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: 6.*
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 2021-03-15.*

- wheat breeding using a large australian panel. *Theoretical and applied genetics*, 130(12), 2543-2555. *Citations*: 16.
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*: 5.
 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*: 22.
 10. Tanaka, E, Bailey, T, Grant, C, Noble, W, & Keich, U (2011) Improved similarity scores for comparing motifs. *Bioinformatics*, 27(12), 1603-1609. *Citations*: 49.

Citation counts are sourced from Google Scholar at 2021-03-15.

SOFTWARE

- **edibble**
 - 📦 An R-package that implements the grammar of experimental design.
Creator and maintainer. GitHub stars: 121
 - 🔗 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: 109
 - 🔗 Source: <https://github.com/emitanaka/anicon>
- **nestr**
 - 📦 An R-package to build hierarchical or nested structures.
Creator and maintainer. GitHub stars: 1
 - 🔗 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: 1128

🔗 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: 34
🔗 Source: <https://github.com/ropenscilabs/gghdr>
🔗 Documentation: <https://ropenscilabs.github.io/gghdr>

• shinycustomloader

📄 Add a custom loader for R shiny.
Creator. GitHub stars: 97
🔗 Source: <https://github.com/emitanaka/shinycustomloader>

• datalegreyar

📄 Datalegreya, the typeface that melts text and data visualisation, for R markdown.
Creator. GitHub stars: 38
🔗 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.

• 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

- **Statistical modelling for plant breeding trials for accurate genotype-by-environment effect predictions**

Sydney Institute of Agriculture

2019-09-06

WORKSHOPS

- **Data Wrangling with R**

2020/12

Hosted by Statistical Society of Australia NSW Branch.

- **Data Visualisation with R**

2020/11

Co-presented with Di Cook.

Hosted by Statistical Society of Australia VIC Branch.

- **Tidyverse and R Markdown Workshop**

2019/12

Hosted by International Biometrics Society Australasia Region.

- **R Package & R Markdown Workshop**

2019/11

Co-presented with Damjan Vukcevic.

Hosted by Statistical Society of Australia VIC Branch.

- **Statistical Methods for Omics Assisted Breeding**

2018/11

*Co-presented with Gota Morota, Diego Jarquin, Malachy Campbell,
Jessica Tressou, Hiroyoshi Iwata.
Hosted by Univeristy of Tokyo.*

SERVICE

- Vice President
Statistical Society of Australia, Victoria Branch
2020/03-2021/03
- President
Statistical Society of Australia, Victoria Branch
2021/03-2023/03
- 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, Australaisan 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 Industrial Transformation Training Centre
2019
Lead: Sally Cripps
\$3,973,202

- **R Consortium Grant**

2019

Lead: Emi Tanaka

\$6,000

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

2018

Lead: Thomas Bishop

Competitive grant with 36% success rate.

\$90,000

- **SSA NSW Branch J. B. Douglas Award Prize**

2011

Each school/department in NSW nominates one near-final or recently-completed postgraduate student then the nominated student is required to make a 15-20 minute presentation to the audience and judging panel, followed by 5 minutes of questions. I was nominated in the second year of my Ph.D. candidature (almost all nominated students are 3rd or 4th year Ph.D. students) and I won second prize.

\$500

- **Winter School Student Travel Bursaries**

2010

Selected by Selection Committee of Winter School in Mathematical & Computational Biology to attend Winter School in Mathematical & Computational Biology 2011, University of Queensland, Queensland.

\$250

- **Statistical Society of Australia Inc. Student Travel Grant**

2010

Selected by Statistical Society of Australia NSW Branch Council to attend the Australian Statistical Conference 2010, Fremantle, Australia.

\$300

- **Australian Postgraduate Award**

2010

Funded by the Australian Federal Government and awarded to students of exceptional research potential.

\$78,750

- **Dean's List for Academic Excellence**

2008

Awarded for academic excellence.

- **Tim Brown Prize II**

2008

The Tim Brown Prize II is awarded for proficiency in Senior Statistics at the School of Mathematics and Statistics, The University of Sydney.

\$275

- **Barker Scholarship IV**

2008

Awarded for proficiency in Senior units of study in the School of
Mathematics and Statistics at the School of Mathematics and Statistics,
The University of Sydney.
\$750