Anna Quaglieri (PhD)

BIOINFORMATICS DATA SCIENTIST

Mass Dynamics

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Education

PhD Student, WEHI Bioinformatics, Speed Lab *Feb16-Sept19*

- PhD thesis: "Using transcriptomics to study relapse in acute myeloid leukaemia" ⬈. The research focused on building a statistical framework to improve the understanding of the relapse mechanisms in particular subtypes of Acute Myeloid Leukemia.

Master Degree in Statistics, Universities of Bologna and Melbourne *Sep12-Jul14*

Master Thesis, WEHI Bioinformatics, Bahlo Lab *Sep12-Jul14*

- Title: "Genome-Wide association study in presence of relatedness – Application to an eye disorder". Preparation and analysis of SNP-Chip data from patients with a rare genetic eye disease, known as MacTel. Goal to perform a pilot GWAS for a larger study that was conducted for Scerri TS et al, 2017, Nature Genetics ⬈

Internship in Biostatistics, S.Orsola-Malpighi Hospital, Bologna *Jul12-Sep12*

- Part of Master degree. The work involved data collection, cleaning, statistical modeling and led to the publication Farioli A et al (2014) ⬈ which was awarded the ISICO Paper Prize in 2014

Undergraduate Degree in Statistics, Universities of Bologna and Glasgow *Sep09-Jul12*

- Title of Statistics Senior Honours project in Glasgow supervised by Professor Marian Scott (University of Glasgow): "Cancer in dogs and quality of life impact". Data analysed using generalised additive models and mixed effect models for longitudinal data.

Employment

Bioinformatics Data Scientist at Mass Dynamics, Melbourne *May21-Current*

- Guide Product team decisions with regards to statistical and bioinformatics techniques;
- Support users with methods and platform consultation so that they can achieve their outcome;
- Develop the scientific methods and sofwtare assets of the platform. Developed R Package MassExpression ⬈ to support processing of label-free quantitative data.
- Participate and present at scientific conferences and contribute to scientific manuscript writing (Contributed to Bloom J et al (2021) ⬈)

Data Scientist Consultant at Eliiza, Melbourne *Nov19-May21*

- Developed a Python workflow to pre-process and identify burnt areas from satellite images
- Led the development of a Python library to automate information extraction from documents. Now this is a product of the company Thea ⬈.
- Built classification models used and deployed into client's production environment

Tutor in Stastics at University of Melbourne *Mar18-May18*

- "Critical thinking with data (UNIB10006)" and "Data and decision making (MAST90072)"

Bioinformatics Research Assistant, WEHI, Majewski Lab *Oct2019-Jan2019*

- Completion of PhD projects published in two papers: Courtney D Nardo et al (2020) ⬈ where I performed statistical analysis of the RNA-Seq data and Quaglieri et al, (2019), BMC Bioinformatics ⬈ where I was the first author and performed all the analyses.

Bioinformatics Research Assistant, WEHI, Speed and Bahlo Labs *Sep13-Mar16*

- Speed lab: Worked as the main statistician in epigenetics projects (Under publication) and collaborated in the creation of an R package for GC bias correction of ChIP-Seq data where the task was to upgrade existing R functions (unpublished work).

Bioinformatics Research Assistant, WEHI, Bahlo Labs *Sep13-Mar16*

- Bahlo lab: Statistician in the team which discovered the first genetic clues for Macular Telangiectasia Type 2 disease through Genome-Wide Association study (Bahlo lab) (Scerri TS et al 2017, Nature Genetics) ⬈.

Leadership Roles

R-Ladies Melbourne (President and Co-organiser) *Oct16-Ongoin*

- The group (Meetup page: www.meetup.com/R-Ladies-Melbourne/, founded in 2016, is the first R Programming community for women and supporters in Australia. President of the group in 2017/2018 where we organised 12 events (workshops, seminars and networking nights) doubling in members; defined the structure to become a not-for-profit association; provided funding for women to attend the useR! conference; gained a new sponsor Nous Group and renewed sponsorship from CSL. Helped running and organising events since 2016.

Parkville Toastmasters (VPM) *2022-Ongoing*

- As Vice President Membership (VPM) I'm in charge of running inductions with new members to intriduce them to the club and how Toastmasters work; setting up new members into the system; organising mentorship between new and established members.

Bioconductor Code of Conduct (Secretary)
2021-Ongoing
- The CoC committee is responsible to file incidents and lead to a conflict resolution which will depend on the gravity of the incident. I share the same role as any other member in supporting conflict resolution and as secretary I set up meetings dates with committee members and organise minutes.

useR! Conferences organising committee
2018/2019 Brisbane/Toulouse
- UseR! Is one of the most important annual international R conferences. Main task to review abstracts and scholarship applications. In Brisbane also organised the logistics of R-Ladies Melbourne travel scholarships to support national participants.

Workers Club Lions Australian Football Club (Treasurer and Captain)
2017-2021
- Treasurer: The role involves looking after incoming funds to the club which come from selling merchandise at the Workers Club and fundraising events. Captain: On field captain of the football team.

Mentor at BrainSTEMM
2018.0
- Co-mentored a group of four high school girls from Gippsland for a three months period. Students for exposed to what it means to do research in science; learnt coding and basic principles of statistics for the first time; presented their final work in an inspiring video and organised a coding day where they became coding instructors for their classmates.

Public speaking

Department of Molecular Life Sciences, University of Zürich
Aug22
- Introductory talk to Mass Spectrometry-based Proteomics while visiting Mark Robinson laboratory in the Department of Molecular Life Sciences, University of Zürich.

Conference: American Society of Mass Spectrometry Conference
Jun22
- Selected talk at ASMS (American Society of Mass Spectrometry) 2022 talk on automated benchmarking. Title: Automated benchmarking enables continuous confidence in scientific software development.

Invited speaker at data science career events (Australia)
2021-2022
- Invited speaker at the Victorian branch of the Satistical Society of Australia (SSA VIC) Industry Showcase Night (2021)
- Invited speaker at the Women in Machine Learning and Data Science (WiMLDS) Career Transitions in ML and AI meetup in Melbourne (2021)
- Invited speaker at the SSA VIC Early Career Panel (2022)

Invited speaker at data science career events (R-Ladies Baltimore)
Nov21
- Panel Discussion on Careers in Data Science (Event page: shorturl.at/akvDG)

Speaker at R-Ladies Melbourne
Aug2021
- Title: A remote glimpse into the useR! 2021 conference (Recording: ☑)

Virtual Brown Bag by Eliiza
Sep20
- Title: "Automating Data Extraction from documents" (Recording: ☑)

PhD completion seminar (WEHI)
Aug19
- Title:Using the transcriptome to study therapy response in luekaemia (Recording: ☑)

Invited talk at the Monash Bioinformatics weekly seminar
Apr18
- Title: A suite of Bioinformatics tools to call and explore somatic mutations over time from RNA-Seq (Slides: ☑)

Speaker at R-Ladies Melbourne monthly meetup
Feb18
- Title: Producing publication ready document in R Markdown (Slides: ☑)

Conference: ABACBS Selected talk
Dec18
- Title: Correcting unwanted variation in RNA-seq data derived from a multicentre study of Leukemia (Slides ☑)

Conference: Bioconductor Asia conference Invited Speaker
2017/2018
- Invited talk to represent R-Ladies Melbourne (Slides: ☑)

Conference: Royal Statistical Society Selected Talk, Cardiff
Sep18
- Short talk: "Correcting unwanted variation in RNA sequencing data from a multi-centre study of leukaemia (Slides ☑)

Conference: useR! 2018 Selected Workshop Presenter, Brisbane
Jul18
- Looking to clean your data? Learn how to Remove Unwanted Variation with R (tutorial video ☑) and Introduction to textual analysis of social media data with R, using the idytext approach (tutorial video ☑)

Conference: COMBINE Invited instructor, Melbourne
2017
- Workshop title: "Introdcution to Bioconductor". Invited to prepare and lead part of the one-day workshop. Material at https://github.com/COMBINE-Australia/2017-05-19-bioconductor-melbourne.

Conference: COMBINE Selected Poster and Talk
2016
- Poster Title and Short Talk: Finding Optimal Coverage to sequence RNA (Slides: ☑)

Publications

- J. Bloom; **A. Quaglieri**; A. Triantafyllidis; P. Burton Ngov; G. Infusini; A. Webb (2021) "Mass Dynamics 1.0: A Streamlined, Web-Based Environment for Analyzing, Sharing, and Integrating Label-Free Data". Journal of Proteome Research. DOI: 10.1021/acs.jproteome.1c00683 ⬈
- **A. Quaglieri**; C. Flensburg; T.P Speed; Ian J Majewski (2020). "Finding a suitable library size to call variants in RNA-Seq". BMC Bioinformatics 21, 553. DOI: `https://doi.org/10.1186/s12859-020-03860-4` ⬈
- **Anna Quaglieri** (2019) PhD Thesis: "Using transcriptomics to study relapse in acute myeloid leukaemia", Published at University of Melbourne ⬈
- C. D. DiNardo; I. S. Tiong; **A. Quaglieri**; S. MacRaild; S. Loghavi; F. C. Brown; R. Thijssen; G. Pomilio; A. Ivey; J. M. Salmon et al. (2020) "Molecular Patterns of Response and Treatment Failure after Frontline Venetoclax Combinations in Older Patients with AML". Blood 135 (11): 791-801. DOI: 10.1182/blood.2019003988 ⬈
- TS Scerri; **A. Quaglieri**, C. Cai; J JZernant; N. Matsunami; L. Baird; L. Scheppke; R. Bonelli; LA Yannuzzi; M. Friedlander; MacTel Project Consortium; C.A. Egan; M. Fruttiger; M. Leppert; R. Allikmets; M. Bahlo (2017) "Genome-wide analysis identifies common variants associated with macular telangiectasia type 2" Nature Genetics 49(4):559-567. DOI: 10.1038/ng.3799 ⬈
- A. Farioli; S. Mattioli; **A. Quaglieri**; S. Curti; F.S. Violante; D. Coggon (2014) "Musculoskeletal pain in Europe: the role of personal, occupational, and social risk factors." Scandinavian Journal of Work, Environment & Health 40(1):36-46. DOI: 10.5271/sjweh.3381 ⬈

Public Outreach

2017   **Research Video – "A genetic treasure map: new research into MacTel"**: Short Movie: https://bit.ly/2CWnu2H. This short movie tells the story of our WEHI team's discovery of the genetic causes of MacTel published in Thomas S et al., Nature Genetics, 2017.

2018   **R-Ladies blog posts**: Summary and learnings after being the main organiser of the group in 2018: https://r-ladiesmelbourne-team.netlify.app/ and https://rladiesmelb2018.netlify.app/.

Awards and scholarships

2018   **Poster Prize - COMBINE Conference**: Poster title: Correcting for unwanted heterogeneity in RNA sequencing data derived from a multicentre study of leukemia.

2016/2017   **Travel Grants – Bioconductor Asia Conference**: Both years invited to present about R-Ladies Melbourne achievements.

2016   **Travel Grant – ABACBS Bioinformatics conference**: Presented poster short Talk: Finding Optimal Coverage to sequence RNA (Slides: shorturl.at/dlorS)

2016   **Poster Prize and Speaker prize – ABACBS and COMBINE Conferences**: Poster and short talk title: Finding a suitable library size to call mutations from RNA Sequencing.

2016   **AMSI Scholarship**: Winter school in Biological and Environmental Mathematical Modelling, Brisbane

2014   **ISICO Paper Prize**: Price from the Italian Scientific Institute of the Spinal Cord – 2014 for Farioli A et al, 2014.