

# Ruan van Mazijk, Curriculum vitae

[ruanvmazijk@gmail.com](mailto:ruanvmazijk@gmail.com), +27 72 516 7570

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MSc candidate in Biological Sciences at the [Dept. of Biological Sciences, University of Cape Town](#), South Africa



I have broad interests in plant and animal phylogenetics systematics, community ecology, plant ecophysiology, climate change biology, statistical ecology, and computational and model-based methods. Striving for a career in research, academia and teaching.

@rvanmazijk on [Twitter](#) and [GitHub](#)

<https://orcid.org/0000-0003-2659-6909>

[in](#) [LinkedIn](#) [ResearchGate](#) [Mendeley](#)

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## Education

- **MSc candidate in Biological Sciences** Cape Town 2018–present
  - Dissertation title: *Genome size effects on plant hydraulic ecophysiology, habitat and phenology in Cape Schoenoid sedges (Cyperaceae: Schoeneae)*
  - Principle supervisor: Associate Prof A.M. Muasya
  - Co-supervisors: Associate Prof G.A. Verboom and Associate Prof A.G. West
- **BSc Hons in Biological Sciences** Cape Town 2017
  - Dissertation title: *Relating vascular plant species richness and environmental heterogeneity across spatial scales in the Greater Cape Floristic Region and the Southwest Australia Floristic Region*
  - Supervisors: Associate Prof M.D. Cramer and Associate Prof G.A. Verboom
  - Graduated with distinction
- **BSc in Ecology & Evolution, Applied Biology** Cape Town 2016
  - Distinction in both majors and the degree as a whole
- National Senior Certificate, Fairmont High School, Durbanville, South Africa 2013
  - Bachelor's Pass with honours and six distinctions

## Publications

- Elliott, T.L., Laidler, G., Muasya, A.M., Muthaphuli, N. and **van Mazijk, R.** (In review.). Foregrounding sedges: bringing the neglected Cape Schoenoid sedges to the forefront of genomic research. Submitted to *Veld & Flora*.
- Cramer, M.D., **van Mazijk, R.**, Wootton, L.M. and Verboom, G.A. (In prep.). Edaphic diversity in a global biodiversity hotspot.
- **Van Mazijk, R.**, Cramer, M.D. and Verboom, G.A. (In prep.). The role of environmental heterogeneity in determining plant species richness in the Greater Cape Floristic Region & the Southwest Australia Floristic Region. To submit to *Journal of Biogeography*.
- **Van Mazijk, R.**, Smythe, L.K., Weideman, E.A. and West, A.G. (2018). Isotopic tracing of stormwater in the urban Liesbeek River. *Water SA*, 44(4):674–679. DOI: [10.4314/wsa.v44i4.16](https://doi.org/10.4314/wsa.v44i4.16).

## Professional affiliations

- Southern African Society for Systematic Biology (SASSB) student member (2018–present).
- South African Association of Botanists (SAAB) student member (2017–present).
- Golden Key International Honour Society member (2015–present).

## Funding & awards

### Travel grants

- UCT Conference Travel Grant to attend the 45<sup>th</sup> Annual SAAB, African Mycological Association (AMA) and SASSB Joint Congress, 2019 (R3,819) 2018

### Scholarships & bursaries

- Department of Science and Technology (DST) and National Research Foundation (NRF) Innovation Masters Scholarship (R90,000) 2019
- SAAB MSc Student Bursary (inaugural recipient) (R20,000 p.a.) 2018, 2019
- UCT Dept. of Biological Sciences Dorothy Cameron Scholarship (R20,000) 2018
- UCT Masters Research Scholarship (R30,000) 2018
- DST-NRF Innovation Honours Scholarship (R60,000) 2017
- SAAB Honours Scholarship (R10,000) 2017
- UCT Science Faculty Scholarship (R15,000 p.a.) 2015, 2016

### Awards & honours

- UCT Once-Off Top Up Award (R5,520) 2018
- UCT Dean's Merit List 2014–2016
- UCT Dick & Dorothy Borchers Prize for the highest standard in 2<sup>nd</sup> year biology (R1,000) 2015
- Top of the class at UCT for:
  - 3<sup>rd</sup> year evolutionary biology 2016
  - 2<sup>nd</sup> year botany 2015
  - 2<sup>nd</sup> year zoology 2015
  - 2<sup>nd</sup> year marine biology 2015
  - 1<sup>st</sup> year biological diversity 2014

### Leadership experience

- UCT Dept. of Biological Sciences Postgraduate Committee ad-hoc member October–December 2018
- UCT Departmental Representative for the Dept. of Biological Sciences 2016.
- Class Representative at UCT for:
  - 3<sup>rd</sup> year evolutionary biology 2016
  - 3<sup>rd</sup> year ecology 2016
  - 2<sup>nd</sup> year botany 2015

### Teaching

- Teaching assistant for angiosperm diversity practicals October 2018
  - Lecturer: Associate Prof G.A. Verboom (UCT)
- Tutor for undergraduate study design and data analysis for scientists 2017–present
  - Convenor: Associate Prof R. Altwegg (UCT)
- Assistant tutor for short course *SEEC-ACCESS Introduction to statistical modelling & data analysis* 18–20 July 2018
  - Organiser: Associate Prof R. Altwegg (UCT)
- Assistant tutor undergraduate R practicals 2016–2018
  - Convenor: Associate Prof R. Altwegg (UCT)
- Hot-seat tutor for mathematics for biology, earth and environmental sciences undergraduates 2015
  - Convenor: T. van Heerden (UCT)
  - Hot-seat organiser: Dr R. Moolman (UCT)

## Research assistance

- Field assistant for sampling *Schoenus* spp. (Cyperaceae: Schoeneae) 2018
  - Specimens were used for genome-size analyses and taxonomic study
  - Supervisor: Dr T.L. Elliott (Université De Montréal) and Associate Prof A.M. Muasya (UCT)
- Laboratory assistant for *Schoenus* spp. (Cyperaceae: Schoeneae) hydroponics pilot study 2018
  - Supervisor: Dr T.L. Elliott (Université De Montréal) and Associate Prof A.M. Muasya (UCT)
- Data processing assistant for assessing the current available data for the soils of the GCFR June 2016–present
  - with L.M. Wootton
  - Part of the *Biodiversity and Environmental Change in the Cape Floristic Region* research programme at the Dept. of Biological Sciences
  - Supervisor: Associate Prof M.D. Cramer (UCT)
- Field assistant for monitoring *Mimetes* spp. & *Leucospermum* spp. (Proteaceae) January–February 2017
  - Populations were on the Cape Peninsula
  - with L.M. Wootton
  - Supervisor: Dr J.A. Slingsby (SAEON Fynbos Node, SEEC)
- Laboratory and field assistant for legume symbiotic rhizobia culturing December 2015
  - Also involved plant collections and literature-derived rhizobial collection data processing
  - Supervisors: Dr M. Dlodlu (University of Swaziland) and Associate Prof A.M. Muasya (UCT)

## Workshop & conference attendance

- Presenter at the 45<sup>th</sup> Annual SAAB, AMA and SASSB Joint Congress January 2019
  - Abstract accepted to present on my BSc Hons dissertation work and publication in prep. on environmental heterogeneity and plant species richness patterns
  - Abstract accepted to present on my MSc work on the physiological correlates of plant genome size
- Presenter at *UCT BioDay* 30 November 2018
  - I presented my preliminary results for my MSc on the role of genome size in shaping Cape Schoenoid sedge physiology
- Presenter at [Pint of Science Cape Town](#) 16 May 2018
  - I presented hypotheses concerning the role of genome size in plant water use and ecology
- Attendee at [satRday Cape Town](#) 17 March 2018
- Presenter at workshop *Biodiversity and Environmental Change in the Cape Floristic Region* 24 January 2017
  - with L.M. Wootton
  - We presented a progress report on “Development of soil atlas for the Greater Cape Floristic Region”
  - Organiser: Associate Prof L. Gillson (UCT)
- Attendee at workshop *Spatial Point Process Modelling for Ecological Survey Data with “inlabru”* 11–13 January 2017
  - Instructors: Prof D.L. Borchers, Dr J.B. Illian (CREEM, St Andrews University) and Dr F. Bachl (University of Edinburgh)

## Skills

- Extended experience with:
  - Apple macOS
  - MS Windows, MS Office
  - R, RStudio, RMarkdown, “tidyverse” packages
  - Statistical modelling, GIS (in R)

- Git, GitHub
- Fluent in:
  - English
  - Afrikaans
- Animal Ethics Course certified by South African Veterinary Council April 2017
  - Competed as part of BSc Hons general coursework

## Miscellaneous

- Open Day volunteer for the Dept. of Biological Sciences 21 April 2018, 22 April 2017
- Botanical Society of South Africa (BotSoc) member 2017–present
- UCT Wine & Culture Society member 2016–present
- UCT Birding Club member 2016–2017
- Selected to give student feedback for curriculum-restructuring within the Dept. of Biological Sciences August 2016
  - Related to roles as Class/Dept. Representative—see above
  - Selected by: Associate Prof A.G. West (UCT)
- Selected to give student feedback for *Biology: How Life Works* (2nd edition) May 2016
  - Morris et al., 2016. W.H. Freeman & Co., Macmillan Education
  - Selected by: Dr R. Kelly-Laubscher (University College Cork)
- Cape Wine Ambassador qualification 2016
  - Conferred by: Clive Torr
- UCT Biological Society member 2015
- Two Oceans Aquarium *Young Biologist* Volunteer 2013–2014

## References

- Associate Prof G.A. Verboom [tony.verboom@uct.ac.za](mailto:tony.verboom@uct.ac.za), +27 21 650 3398
  - Dept. of Biological Sciences, UCT
  - Bolus Herbarium, UCT
- Associate Prof M.D. Cramer [michael.cramer@uct.ac.za](mailto:michael.cramer@uct.ac.za), +27 21 650 2444
  - Dept. of Biological Sciences, UCT
- Associate Prof A.M. Muasya [muthama.muasya@uct.ac.za](mailto:muthama.muasya@uct.ac.za), +27 21 650 3725
  - Dept. of Biological Sciences, UCT
  - Bolus Herbarium, UCT
- Associate Prof A.G. West [adam.west@uct.ac.za](mailto:adam.west@uct.ac.za), +27 21 650 3628
  - Dept. of Biological Sciences, UCT
- Associate Prof R. Altwegg [res.altwegg@uct.ac.za](mailto:res.altwegg@uct.ac.za), +27 21 650 5750
  - Dept. of Statistical Sciences, UCT
  - Head of Centre for Statistics in Ecology, the Environment and Conservation (SEEC), UCT
- Prof T.A. Hedderson [terry.hedderson@uct.ac.za](mailto:terry.hedderson@uct.ac.za), +27 21 650 4037
  - Dept. of Biological Sciences, UCT
  - Bolus Herbarium, UCT