

I have broad interests in plant and animal phylogenetics systematics, macroecology, 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.github.io | ResearchGate | GitHub | @rvanmazijk

Education *All at the University of Cape Town (UCT)*

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|---|-------|
| MSc candidate in Biological Sciences | 2018– |
| <i>Genome-size effects on plant hydraulic ecophysiology, habitat & phenology in Cape schoenoid sedges</i> | |
| Principal supervisor: A/Prof A.M. Muasya. Co-supervisors: A/Prof G.A. Verboom & A/Prof A.G. West | |
| BSc Hons in Biological Sciences <i>With distinction</i> | 2017 |
| <i>Relating vascular plant species richness & environmental heterogeneity spatially in the GCFR & SWAFR</i> | |
| Supervisors: Prof M.D. Cramer & A/Prof G.A. Verboom | |
| BSc in Ecology & Evolution, Applied Biology <i>With distinction in both majors & the degree</i> | 2016 |

Publications

- Elliott, T.L., **van Mazijk, R.**, Barrett, R.L., Bruhl, J.J., Joly, S., Muthaphuli, N., Wilson, K.L. & Muasya, A.M. (In press). Global dispersal and diversification of the genus *Schoenus* (Cyperaceae) from the Western Australian biodiversity hotspot. *J. Syst. & Evol.*
- Van Mazijk, R.**, Cramer, M.D. & Verboom, G.A. (In press). Environmental heterogeneity explains contrasting plant species richness between the South African Cape and southwestern Australia. *J. Biogeogr.*
- Elliott, T.L., Laidler, G., Muasya, A.M., Muthaphuli, N. & **van Mazijk, R.** (2019). Solving the sedge mystery. *Veld & Flora* 105(3):20–25. (Popular article)
- Cramer, M.D., Wootton, L.M., **van Mazijk, R.** & Verboom, G.A. (2019). New regionally-modelled soil layers improve prediction of vegetation type relative to that based on global soil models. *Divers. Distrib.* 00:1–15. DOI: 10.1111/ddi.12973.
- Van Mazijk, R.**, Smyth, L.K., Weideman, E.A. & 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.

Professional affiliations

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|---|-------|
| SASSB ¹ council member, student representative | 2019– |
| SASSB student member | 2018– |
| SAAB ² student member | 2017– |
| Golden Key International Honour Society member | 2015– |

Funding & awards

Scholarships & bursaries

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| Innovation Masters Scholarship (DST ³ -NRF ⁴) (R90,000) | 2019 |
| Masters Research Scholarship ⁵ (UCT) (R30,000) | 2019 |
| Bursary Top Ups ⁶ (UCT) (R6,000) | 2019 |
| MSc Student Bursary (inaugural recipient) (SAAB) (R20,000 p.a.) | 2018–2019 |
| Dorothy Cameron Scholarship (UCT Department of Biological Sciences) (R20,000) | 2018 |
| Once-Off Top Up Award (UCT) (R5,520) | 2018 |

¹ Southern African Society for Systematic Biology

² South African Association of Botanists

³ Department of Science & Technology (South Africa)

⁴ National Research Foundation (South Africa)

⁵ Awarded but not reimbursed due to award of Innovation Masters Schol.

⁶ From MSc supervisors A/Prof A.M. Muasya, G.A. Verboom & A.G. West

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| Masters Research Scholarship (UCT) (R30,000) | 2018 |
| Innovation Honours Scholarship (DST-NRF) (R60,000) | 2017 |
| Honours Scholarship (SAAB) (R10,000) | 2017 |
| Honours Merit Scholarship ⁷ (UCT Council) (R20,000) | 2017 |
| Science Faculty Scholarship (UCT) (R15,000 p.a.) | 2015–2016 |

Travel grants

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| For the 45 th Annual SAAB, AMA ⁸ & SASSB Joint Congress, 2019 (UCT) (R3,819) | 2018 |
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Awards & honours

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| Best Systematics MSc Presentation ⁹ at the 45 th Annual SAAB, AMA & SASSB Joint Congress | January 2019 |
| Dean's Merit List (UCT) | 2014–2016 |
| Dick & Dorothy Borchers Prize, for the highest standard in 2 nd year biology (UCT) (R1,000) | 2015 |
| Top of the class at UCT for: | |
| • 3 rd year evolutionary biology | 2016 |
| • 2 nd year botany | 2015 |
| • 2 nd year zoology | 2015 |
| • 2 nd year marine biology | 2015 |
| • 1 st year biological diversity | 2014 |

Leadership

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| SASSB council member, student representative | 2019– |
| UCT Department of Biological Sciences Postgraduate Committee member | October 2018– |
| UCT Departmental Representative for the Department of Biological Sciences | 2016 |
| Class Representative at UCT for: | |
| • 3 rd year evolutionary biology | 2016 |
| • 3 rd year ecology | 2016 |
| • 2 nd year botany | 2015 |

Teaching assistance

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| Teaching & field assistant for 2 nd year ecology & evolution Convenor: Associate Prof G.A. Verboom (UCT) | 2019– |
| Teaching assistant for 2 nd year angiosperm diversity Lecturer: Associate Prof G.A. Verboom (UCT) | 2018– |
| Tutor for 2 nd year study design & data analysis for scientists in R Convenor: Associate Prof R. Altwegg (UCT, SEEC ¹⁰) | 2017– |
| Lectured for SDU ¹¹ short course <i>Teaching Biodiversity for FET</i> ¹² Life Sciences Teachers Lecture title: <i>Biodiversity, evolution & taxonomy—an overview of the major clades of animals & plants</i> | 18 March 2019 |
| Assistant tutor for SEEC-ACCESS ¹³ short course <i>Intro. to statistical modelling & data analysis in R</i> Organiser: Associate Prof R. Altwegg (UCT, SEEC) | 18–20 July 2018 |
| Assistant tutor for 1 st year introductory statistics R practicals Convenor: Associate Prof R. Altwegg (UCT, SEEC) | 2016–2018 |
| Hot-seat tutor for 1 st year mathematics for biology, earth & environmental sciences undergraduates Convenor: T. van Heerden (UCT); hot-seat organiser: Dr R. Moolman (UCT) | 2015 |

⁷ Awarded but not reimbursed due to award of Innovation Honours Schol.

⁸ African Mycological Association

⁹ Awarded by SASSB; three-way tie with Ms Z. Shaik (UCT, South African National Biodiversity Institute) & Mr D. Main (University of Johannesburg)

¹⁰ UCT Centre for Statistics in Ecology, the Environment & Conservation

¹¹ UCT Schools Development Unit

¹² Further Education & Training (grades 10–12 in South Africa)

¹³ DST-NRF Applied Centre for Climate & Earth Systems

Workshops taught & lead

Data wrangling & manipulation in R

1–3 July 2019

Research assistance

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

Workshop & conference attendance

- Presenter at the 45th Annual SAAB, AMA & SASSB Joint Congress 9–11 January 2019
1st oral presentation: 9 January 2019
Environmental turnover predicts plant species richness & turnover
Based on my BSc Hons dissertation work & publication in prep.
- 2nd oral presentation:** 11 January 2019
Larger genome size constrains water-use efficiency & phenology in Cape schoenoid sedges
Based on my MSc work
- 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
- Attendee at satRday Cape Town (<https://capetown2018.satrdays.org>) 17 March 2018
- Presenter at workshop *Biodiversity & Environmental Change in the Cape Floristic Region* 24 January 2017
With Ms 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) & Dr F. Bachl (University of Edinburgh)

Press releases & science communication

- Radio interview on *The John Maytham Show, Cape Talk* 28 November 2018
Harvesting Storm Water
- Interviewed for article for UCT News by Susan Segar 26 November 2018
Harvesting storm water from the Liesbeeck River
- Mentioned in article for UCT Faculty of Science press releases. November–December 2018
Tracing stormwater in the Liesbeeck River - students passion drives scientific discovery
- Presenter at *Pint of Science Cape Town* 16 May 2018
I presented hypotheses concerning the role of genome size in plant water use & ecology
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Skills

Strong public speaker, visual design, teaching

Languages

English, Afrikaans
R, *bash*

Methods

Statistical modelling
Data manipulation, wrangling & cleaning
GIS (in *R*)

Tools

R Markdown & related *R*-packages
tidyverse *R*-packages
git, GitHub
LaTeX, *BibTeX*
Apple macOS
Microsoft Windows
Microsoft Office Word, Excel & Powerpoint

Miscellaneous

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| Open Day volunteer for the Department of Biological Sciences | 22 April 2017, 21 April 2018 |
| Animal Ethics Course certified by South African Veterinary Council Completed as part of BSc Hons general coursework | April 2017 |
| Botanical Society of South Africa (BotSoc) member | 2017– |
| UCT Wine & Culture Society member | 2016–2018 |
| UCT Birding Club member | 2016–2017 |
| Selected to give student feedback for curriculum-restructuring Within the Department of Biological Sciences Related to roles as Class/Departmental Representative—see above Selected by: Associate Prof A.G. West (UCT) | August 2016 |
| Selected to give student feedback for <i>Biology: How Life Works</i> (2nd edition) Morris et al., 2016. W.H. Freeman & Co., Macmillan Education Selected by: Dr R. Kelly-Laubscher (University College Cork) | May 2016 |
| <i>Cape Wine Ambassador</i> qualification Conferred by: Clive Torr | 2016 |
| UCT Biological Society member | 2015 |
| Two Oceans Aquarium <i>Young Biologist</i> Volunteer | 2013–2014 |

References

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| Prof A.M. Muasya Head, Department of Biological Sciences, UCT Director, Bolus Herbarium, UCT | muthama.muasya@uct.ac.za, +27 21 650 3725 |
| Associate Prof G.A. Verboom Department of Biological Sciences, UCT Bolus Herbarium, UCT | tony.verboom@uct.ac.za, +27 21 650 3398 |
| Prof M.D. Cramer Department of Biological Sciences, UCT | michael.cramer@uct.ac.za, +27 21 650 2444 |
| Associate Prof A.G. West Department of Biological Sciences, UCT | adam.west@uct.ac.za, +27 21 650 3628 |
| Associate Prof R. Altwegg Department of Statistical Sciences, UCT Head, SEEC, UCT | res.altwegg@uct.ac.za, +27 21 650 5750 |
| Prof T.A.J. Hedderson Department of Biological Sciences, UCT Bolus Herbarium, UCT | terry.hedderson@uct.ac.za, +27 21 650 4037 |
