

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)*

MSc candidate in Biological Sciences (UCT)

Genome-size effects on plant hydraulic ecophysiology, habitat & phenology in Cape schoenoid sedges
Principal supervisor: Prof A.M. Muasya Co-supervisors: Prof G.A. Verboom & Prof A.G. West

BSc Hons in Biological Sciences (UCT) *With distinction*

Relating vascular plant species richness & environmental heterogeneity spatially in the GCFR & SWAFR
Supervisors: Prof M.D. Cramer & Prof G.A. Verboom

2017

BSc in Ecology & Evolution, Applied Biology (UCT) *With distinction in both majors & the degree*

2016

Publications

- Van Mazijk, Cramer, & Verboom. 2021. Environmental heterogeneity explains contrasting plant species richness between the South African Cape & southwestern Australia. *J. Biogeogr.* 48:1875–1888. DOI: 10.1111/jbi.14118.
- Elliott, van Mazijk, Barrett, Bruhl, Joly, Muthaphuli, Wilson, & Muasya. 2021. Global dispersal & diversification of the genus *Schoenus* (Cyperaceae) from the Western Australian biodiversity hotspot. *J. Syst. & Evol.* 59(4):791–808. DOI: 10.1111/jse.12742
- Elliott, Laidler, Muasya, Muthaphuli & van Mazijk. 2019. Solving the sedge mystery. *Veld & Flora* 105(3):20–25. (Popular article)
- Cramer, Wootton, van Mazijk & Verboom. 2019. New regionally-modelled soil layers improve prediction of vegetation type relative to that based on global soil models. *Divers. & Distrib.* 25(11):1736–1750. DOI: 10.1111/ddi.12973.
- Van Mazijk, Smyth, Weideman & West. 2018. Isotopic tracing of stormwater in the urban Liesbeek River. *Water SA* 44(4):674–679. DOI: 10.4314/wsa.v44i4.16.

Professional affiliations

| | |
|---|-------|
| 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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| Student Sponsorship for online attendance at MEDECOS XVII (DST-NRF) (R7,000) | 2022 |
| For the 45 th Annual SAAB, AMA ⁸ & SASSB Joint Congress, 2019 (UCT) (R3,819) | 2018 |

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 assistant & field assistant for 2 nd year angiosperm diversity Convenor: Dr. S. Chimphango (UCT) | 2022 |
| Teaching & field assistant for 2 nd year ecology & evolution Convenor: Associate Prof G.A. Verboom (UCT) | 2019–2020 |
| Teaching assistant for 2 nd year angiosperm diversity Lecturer: Associate Prof G.A. Verboom (UCT) | 2018–2019 |
| Tutor for 2 nd year study design & data analysis for scientists in R Convenor: Associate Prof R. Altwegg (UCT, SEEC ¹⁰) | 2017–2020 |
| 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

- Attended MEDECOS XVII 5–9 September 2022
- Presented at IBS¹⁴ ECBC¹⁵ 22–24 October 2021
- Presented as candidate at iDiv¹⁶ Online Joint Recruitment Symposium 31 August–1 September 2020
- 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

¹⁴International Biogeography Society

¹⁵Early Career Biogeographers Conference

¹⁶German Centre for Integrative Biodiversity Research, Halle-Jena-Leipzig

Interviewed for article for UCT News by Susan Segar
Harvesting storm water from the Liesbeek River

26 November 2018

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

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 |
