

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	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 review). 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 review). 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

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

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

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

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

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

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

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

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

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
