Stewart Charles McDowall

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PROFESSIONAL EXPERIENCE

2022-Present	**PhD Candidate** *CML – University of Leiden* Ex-ante Life Cycle Assessment and the development of software tools for the modelling and optimisation of secondary raw material recovery
2015-Present	**Scientific Editor and Proofreader** *Freelance, remote* Editing and proofreading of texts including theses for MSc and PhD candidates, journal articles and grant applications
2019-2020	**Research Associate** *German Biomass Research Centre (DBFZ) in Leipzig, Germany* R&D in biotechnology and process engineering with a specialisation in the separation and purification of products from biomass
2013-2014	**Chemist** *Geocycle Chemical Waste Recycling in Melbourne, Australia* Sampling, testing, and certification of waste streams and products. Tank farm management, material blending, and safety control
2010-2013	**Analytical Chemist** *ExxonMobil Oil Refinery in Melbourne, Australia* Testing and certification of feedstocks, refinery intermediates, petrochemicals and fuels in a NATA certified laboratory
2008-2010	**R&D and Production Chemist** *Dyesol Solar Technologies in Canberra, Australia* Research, development, and production of organometallic dyes for dye-sensitised solar cells. Process development for synthesis and purification according to ISO 9001 standards

EDUCATION

2021	**Graduate Certificate in Project Management** *Queensland University of Technology, Australia (distinction average)*
2021	**Graduate Certificate in Sustainability** *University of Sydney, Australia (high distinction average)* Specialisation in developing and analysing sustainable processes

2017-2020	**Master of Science (Chemistry)**
	University of Leipzig, Germany (distinction average)
	Thesis at the German Biomass Research Centre (DBFZ) (high distinction)
	Development of a membrane filtration cascade for the valorisation of biomass

2018-2019	**Master of Science (Chemistry)**
	University of Bologna, Italy
	Research Exchange Program as part of the MSc at the University of Leipzig

2011-2013	**Master of Chemical and Biomolecular Engineering**
	University of Melbourne, Australia
	(discontinued due to a motorcycle accident)

2008-2010	**Bachelor of Science (Chemistry)**
	Australian National University, Australia (distinction average)

SCIENTIFIC PUBLICATIONS

2022	McDowall, S.C., Braune, M.,Nitzsche, R.,
	Recovery of bio-based MCFAs from fermentation broth with membrane filtration
	Separation and Purification Technology ([link](#))

2021	Braune, M., Yuan, B., Sträuber, H., McDowall S.C., Nitzsche, R., Gröngröft A., *A downstream processing cascade for separation of caproic and caprylic acid from maize silage-based fermentation broth*
	Frontiers in Bioengineering and Biotechnology ([link](#))

2020	McDowall, S.C.,
	Development of a membrane filtration cascade for the recovery of biomass-derived medium-chain fatty acids
	Master Thesis
	Deutsches Biomasseforschungszentrum (DBFZ) and Universität Leipzig

VOLUNTARY WORK

2021-Present	**Associate**
	Time for Planet, global/remote
	Assessing applications for funding and proofreading communications

2014-2019	**Director of Operations**
	Gundaway Kalinga in The Philippines
	Management of a small, grassroots NGO working to promote education equality in isolated communities in the Philippines

2011-2014	**Academic Tutor**
	Gilmore College in Melbourne, Australia
	Academic tutoring for high school students from disadvantaged and refugee backgrounds

LANGUAGE PROFICIENCY

English - Native

German - Advanced (C1)

Italian - Intermediate (B1)

Spanish - Basic (A1)

SOFTWARE & PROGRAMMING

Python - Intermediate

R - Intermediate

Graphics processing - Intermediate

UNIX shell - Intermediate

LIMS - Intermediate

Matlab - Intermediate