

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) <i>University of Leipzig, Germany (distinction average)</i> 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) <i>University of Bologna, Italy</i> Research Exchange Program as part of the MSc at the University of Leipzig
2011-2013	Master of Chemical and Biomolecular Engineering <i>University of Melbourne, Australia</i> (discontinued due to a motorcycle accident)
2008-2010	Bachelor of Science (Chemistry) <i>Australian National University, Australia (distinction average)</i>

SCIENTIFIC PUBLICATIONS

2022	McDowall, S.C., Braune, M., Nitzsche, R., <i>Recovery of bio-based MCFAs from fermentation broth with membrane filtration</i> Separation and Purification Technology (link)
2021	Braune, M., Yuan, B., Sträuber, H., McDowall S.C., Nitzsche, R., Gröngroft A., <i>A downstream processing cascade for separation of caproic and caprylic acid from maize silage-based fermentation broth</i> Frontiers in Bioengineering and Biotechnology (link)
2020	McDowall, S.C., <i>Development of a membrane filtration cascade for the recovery of biomass-derived medium-chain fatty acids</i> Master Thesis Deutsches Biomasseforschungszentrum (DBFZ) and Universität Leipzig

VOLUNTARY WORK

2021-Present	Associate <i>Time for Planet, global/remote</i> Assessing applications for funding and proofreading communications
2014-2019	Director of Operations <i>Gundaway Kalinga in The Philippines</i> Management of a small, grassroots NGO working to promote education equality in isolated communities in the Philippines
2011-2014	Academic Tutor <i>Gilmore College in Melbourne, Australia</i> 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