

A biotechnologist determined to make our food systems more circular, equitable and resilient by realising the full potential of microalgal within the collaborative overlap between research and industry.

## Education

**MSc Biotechnology** - Wageningen University of Research, NL (2020 – 2023) – rounded grade: **8.0**

- Self-designed Thesis: First demonstration of the Self-Induced Intron Based Riboswitch (SIBR) in microalgae (*Nannochloropsis*) via a CRISPR-based testing platform (Dr Sarah D'Adamo) – to be published and continued
- Self-designed Internship: Scaling a bioprocess from lab to bioreactor – building and testing €2000 euro 10L bioreactor (AlgO Circular)
- NASA Deep Space Food challenge: WUR's Team Food-Loop, designed 2m<sup>3</sup> machine to feed 5 astronauts for 36 months
- Team leader Bioprocess Design course for company Farmless; hydrogen oxidizing bacteria gas fermentation (CO<sub>2</sub>, H<sub>2</sub>)
- Extracurricular courses – shadowing Bioreactor design, Advanced bioreactor design, Advanced separation processes, Sustainable food and bioprocesses

**BSc Plant Science** - University of Nottingham, UK (2017 – 2020) – grade: **First class**

- Thesis: Epitranscriptomics – RNA methylation 'readers' (Prof. Rupert Frey)
- Sainsbury Undergraduate Studentship finalist (University of Cambridge)
- Sutton Trust non-traditional background scholarship
- Nottingham Advantage Award
- Gatsby Plant Science Summer School (2018)

**Moulton Secondary School & Sixth Form College** - UK (2010-2017) – GCSE: **A - A\*** A-level: **AAB**

## Research & Work experience

**AlgO Circular** - Wageningen, NL **Co-Founder** (2021 – current)

- Start-up - Circular food ingredients (TLR 4)
- Single-cell protein and low-temp gelling agent
- World first cultivation of *Galdieria sulphuraria* on distillery stillage.
- Lab scale: pre-treatment and cultivation development
- Winners ReThink Protein 2021 & Dutch Cleantech 2023
- Represented Wageningen University of research at 4TU Dutch Impact challenge Finalist at SLUSH, *Helsinki*
- Case study for course Principles of Entrepreneurship; lecturing and guiding 90 WUR students

**NutriGreens (Enactus Nottingham Ltd)** – Nottingham, UK / Kampala, UG **Co-Founder** (2018 – 2020)

- Social enterprise - Combatting micronutrient malnutrition in Ugandan school children using hydroponics (target Zn, Fe, Vit A)
- Led a team of 10 BSc/MSc/PhD students for two years
- Launched the pilot; 428 children in two schools
- Represented Nottingham at Enactus UK Nationals (2020)
- 1<sup>st</sup>/68 UK universities - Enactus UK Nationals (2019, 2020)
- Represented UK at Enactus World Cup (2020)
- World Cup semi-finalists in Silicon Valley & Utrecht (2019, 2020)
- Secured €12,000 in grant funding

**ZX Venture capital, (AB-InBev investment arm)** – London, UK **Summer Intern - Pre-seed validation** (2020)

- Pre-seed validation - 300 applicants for six internships
- Identify a novel investment opportunity created due to COVID
- Hotel beverage vending machines
- Secured €30,000 investment

**Rothamsted Research** – London, UK **Summer Intern – Researcher** - (2019)

- Lipid metabolic engineering and synthetic biology department (Prof Johnathan Napier, Dr Frederic Beaudoin)
- Novel tool based in yeast for elongation of iso-branched fatty acids

## Talks & Conferences

Ritzer, S., Macken, D., Dam, v. D., Bosch, v. d. D., Navarr, M., (2022, March 22<sup>nd</sup>). Safe & Healthy Food Systems [Panellist]. Safe & Healthy Food Systems Programme Day, WICC, Wageningen.

Macken, D., (2022). Principles of entrepreneurship: AlgO Circular Case study. (2022, September 22<sup>nd</sup>), Principles of entrepreneurship [Lecture]. Plus Ultra II, Wageningen.

Kroos, G., Lamboo, J., Vin, d. v. N., Wartenbergh, S. F., Excel, B., Macken, D., (2022, November 24<sup>th</sup>). People over Profit [Panellist]. Social and Sustainable Impact Week, Plus Ultra II WUR, Wageningen.

Macken, D., Perez Rico, D. A., (2023). AlgO Circular – circular food ingredients. (2023, April 6<sup>th</sup>), Dutch Cleantech Challenge, TU Delft, The Netherlands.

Macken, D., Perez Rico, D. A., (2023). AlgO Circular – circular food ingredients. (2023, April 19-20<sup>th</sup>), Global Cleantech Challenge, UCL, London Business School, United Kingdom.

Macken, D., Perez Rico, D. A., (2021). AlgO Circular – Microalgal alternative protein. (2021, November 30<sup>th</sup>), Dutch 4TU Finals, SLUSH, Helsinki.

Macken, D., (2022). Streamline your skills – student entrepreneurship. (2022, March 29<sup>th</sup>), WUR Career Week, Forum podium, Wageningen.

## Competences

Bioreactor cultivation

Bioprocess design / construction

Microalgae genetic engineering

Bioinformatics

Micronutrient malnutrition

Pre-seed entrepreneurship

## Soft skills

Problem solving & Critical thinking

Adaptability & Flexibility

Personable with integrity

Strong teamwork

Vision & Innovative

Proactive & Self-managing

## Hobbies & Interests

Tae Kwon Do Black Belt (2<sup>nd</sup> Dan) & Instructor

Meditation

Lacrosse, gym & running 3 times per week

Scouting

Extreme adventure races/challenges

Philosophy - Writing a book focusing on accessible epistemology called 'Less wrong'

Catan player – Top 10 in The Netherlands