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TALENT4BBI
Training Future Leaders 4 the European Bio-Based Industries

Marie Skłodowska-Curie Actions

Panos Kopsiaftis

Greece ➤ The Netherlands

Fermentative lactate production from lignocellulosic feedstocks using a thermophilic microbe

What's your project about?

Over the last few decades, the **effective utilization** of biomass has been recognized as **pivotal** in addressing the **climate crisis**. In my project, I focus on **lignocellulose**, a type of **waste biomass** rich in sugar polymers, which needs to be **hydrolyzed** before the sugars within become accessible for **microbial bioconversion**. Ultimately, my project's goal is to **valorize** these sugars into **lactic acid** through **fermentation** with a **thermophilic microorganism**. The first part of my project focuses on **enhancing** the capabilities of this thermophilic microbe to **hydrolyze** the lignocellulose. The second part focuses on **optimizing** the **fermentation process** of the released sugars during hydrolysis.

Project Partners

Wageningen University is internationally reputed for life sciences and bio-based research. At the **Laboratory of Microbiology**, my promotor is **Prof. dr. ir. Richard van Kranenburg**, who is a Special Professor in **Bacterial Cell Factories**, and my co-promotor is **Prof. Nico Claassens**, who is an Associate Professor. I am a member of the **Bacterial Genetics** group. At our group, research is centered around **CRISPR/Cas** biology and engineering as well as **microbial synthetic metabolism**.

Wageningen University & Research & **Corbion**

Corbion is a **sustainable ingredients** company dedicated to **preserving what matters**, including **food** and food production, **health**, and the **planet**. The company is specialized in **lactic acid**, lactic acid derivatives, **food preservation** solutions, **functional blends**, and **algae** ingredients, using their deep application and product knowledge to propel **nature's ingenuity** through **science**. **Harald Ruijssenaars** is a senior **fermentation specialist** in charge of the project's supervision

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What are you most excited about your project?

The **opportunity** that it gives me to work on a **real-life challenge.**

What do you find the most challenging in your project?

I would say that some of the **technical parts** of the project are quite **challenging**.

What brought you to the Bioeconomy?

The **desire** to work on projects with **potential impact** on the fields of **sustainability** and **biotechnology**.

What does the Bioeconomy mean for you?

The **economic activities** that focus on the **sustainable** utilization of **biological resources** to create **value-added products** constitute the **bioeconomy**. This system aims to support **economic growth** across all sectors, while also **minimizing waste** as well as reducing **dependency on fossil fuels**. In this economic model, the **preservation** of **ecosystems** and the minimisation of **environmental hazards** is pivotal.

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WAGENINGEN UNIVERSITY & RESEARCH

Corbion
Keep creating

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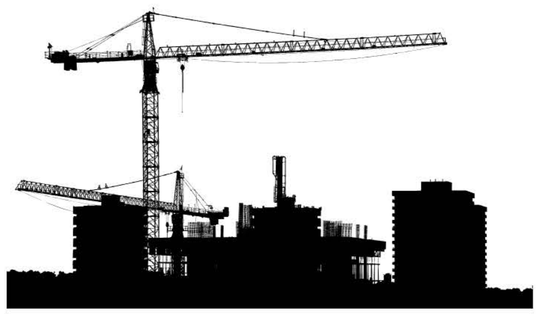
What did little Panos want to be when he'd grow up?

Basketball player



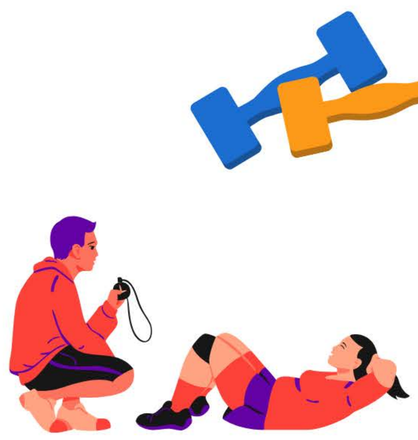
Something you love? And something you hate?

I love lasagna, watching my favourite team's matches, and listening to music.

It is difficult to withstand the loud noises from construction sites.

Any hobbies outside of Science?

Gym, Basketball, and Music



Short CV

2014-2018	★ B. Sc. in Biology, University of Crete, **Greece**
2019	● Erasmus+ Internship, TUDelft, **The Netherlands**
2019-2020	● M. Sc in Biotechnology, University of Bath, **England**
2020-2022	● Upstream Scientist II, Centre for Process Innovation, Darlington, **England**