

Maria Ciotti

Italy ➤ Sweden



*Transition to a biobased economy:
prospective LCA as a tool for critical
guidance in technology development*

What's your project about?

The aims of this project are to **assess** the **life-cycle environmental impacts** due to the **change** from traditional, **fossil-based products** to their **biobased counterparts** and to **develop** prospective LCA **methodology** in order to **assess multiple processes** while accounting for the **TRL** of the technologies involved. Actual **case studies** will cover different situations and will be the **basis** for the **systematic development of LCA methodology** by taking a **modular approach** to setting up the various **LCA models**, and by including **future-oriented considerations** regarding the **energy background system**, in order to reflect **time of implementation** at an industrial scale of those technologies with a low TRL.

Project Partners



Chalmers University of Technology is an independent university which has the highest university **reputation** in **Sweden**. Under the supervision of **Dr. Mathias Janssen**, the T4BBI project is carried out at the Department of **Technology Management and Economics** - Division of **Environmental System Analysis**.



**Chalmers University
of Technology**



**Consorzio
Italbiotech**



Consorzio Italbiotech is the **leading Italian non-profit organization** in the biotechnology sector, bringing together **32 Italian universities and research institutions** and **70 companies and start-ups**. It offers **consulting** strategies concerning **business development** in **Life Science, Agrofood and Bioeconomy**, turning ideas into sustainable innovation. **Maurizio Bettiga** is in charge of the **industrial partner** supervision of the project.



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What are you most excited about your project?

The **versatility** of Life Cycle Assessment gives me the **opportunity** to deal with many different projects and **innovative solutions**, broadening my awareness on **bioeconomy**

What do you find the most challenging in your project?

To conduct **several projects on parallel** is both **exciting** for the variety of topics and **challenging** in terms of **time and resource management**

What brought you to the Bioeconomy?

An advanced microbiology course I attend in Madrid made me **curious** about **Industrial Biotechnology** and **Fermentation** processes. After that, I decided to **deepen my knowledge** on industrial and agricultural applications of **biotechnology**.

What does the Bioeconomy mean for you?

Bioeconomy is the **path** we should follow to have a **more sustainable and circular world**, in which technology and innovation **valorize renewable resources** and **reduce** antropogenic **negative impact** on our **planet**.

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

Many different things, a firefighter for example.

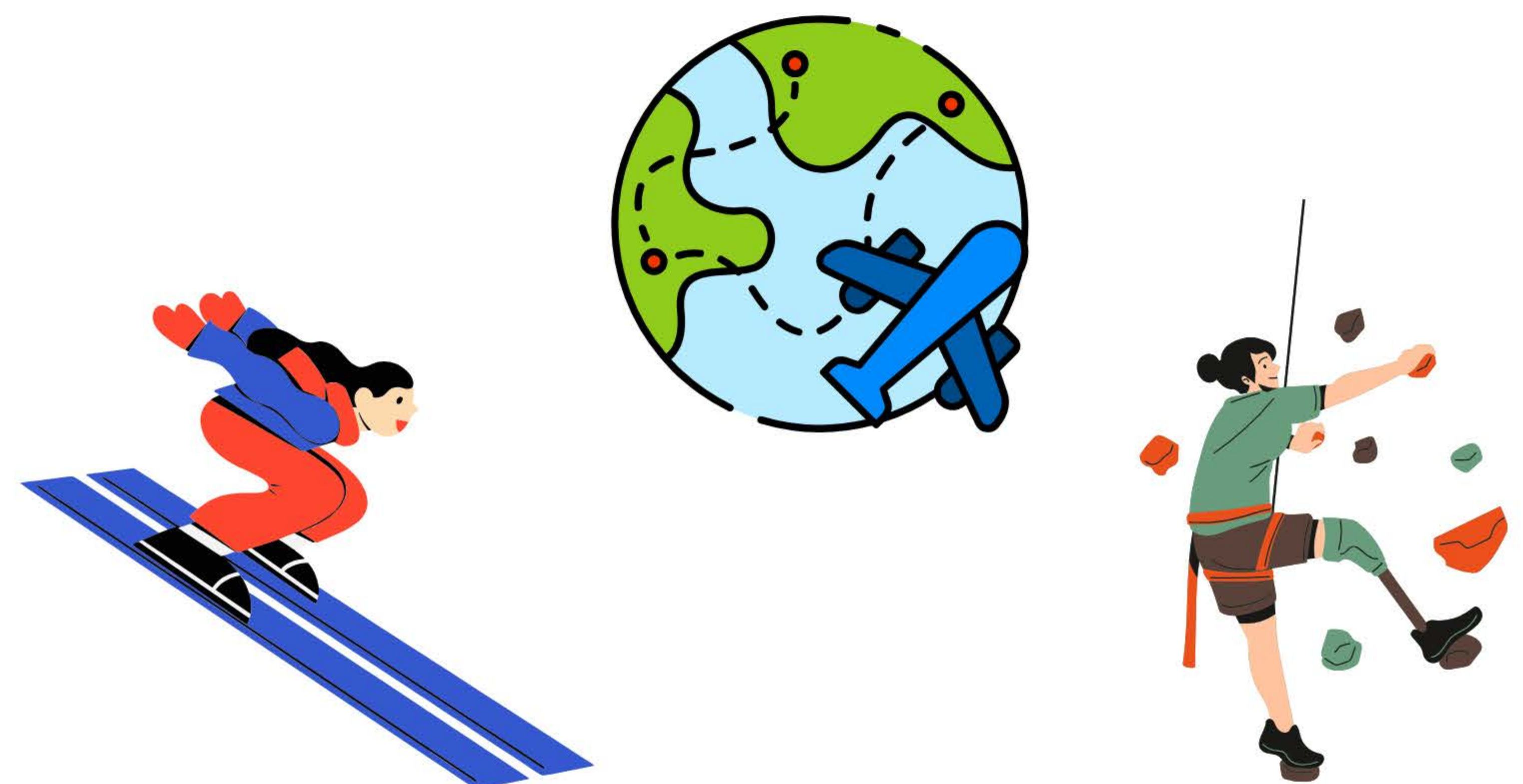


Something you love? And something you hate?

I love coffee with cinnamon bun and I hate pickles.

Any hobbies outside of Science?

Travelling, downhill skiing, and climbing



Short CV

- 2016-Today** ★ Local Chapter Sending Coordinator, AFS Intercultural Programs, **Italy**
- 2017-2020** ★ B. Sc. in Biotechnology, University of Milano-Bicocca, **Italy**
- 2018-2019** ● Academic Exchange, Program Erasmus+, Universidad Complutense de Madrid, **Spain**
- 2020-2022** ★ M. Sc. in Biotechnology for the Bioeconomy, University of Milan, **Italy**
- 2021-2022** ● Researcher in Lignin Valorization and Enzymatic Hydrolysis at MetGen, **Finland**

