

Praveen Kumar

India ➤ Switzerland

*Development of Metallic Colours from
Biological Building Blocks*



What's your project about?

In my project, I will investigate how we can **create metallic colours** from biological building blocks. Additionally, I will **explore** the different **molecular compositions** that cause certain species to produce structural colours.

Project Partner



The University of Fribourg is a public university located in Fribourg, Switzerland. The roots of the university can be traced back to 1580. The University of Fribourg is Switzerland's only bilingual university and offers full curricula in both French and German. My supervisor is Prof. Ullrich Steiner



University of Fribourg

**Adolphe Merkle
Institute**



The Adolphe Merkle Institute (AMI) is a leading independent nanoscience competence center at the University of Fribourg that focuses on interdisciplinary research and education in the domain of soft nanomaterials. My group is called soft matter physics and they focus on structural colours, colloidal self assembly, meta-materials. My supervisor is Dr. Viola Vogler-Neuling.



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What are you most excited about your project?

The novelty and the potential impact of structural colours in **revolutionizing** how we see and can produce colours in an ecofriendly way

What do you find the most challenging in your project?

The **characteristics of the natural biopolymers** and how it can be chemically modified to achieve desired properties.

What brought you to the Bioeconomy?

I was **captivated** by the **Bioeconomy's potential** to merge my **passion** for chemistry with a profound **environmental purpose**. It offers a **frontier** where **innovation** converts **renewable biomass** into **sustainable, value-added products**, challenging the **status quo** of fossil fuels.

What does the Bioeconomy mean for you?

The **Bioeconomy** embodies a **dynamic shift** from finite, **resource-driven economies** to **sustainable, biology-driven** ones. It's a **pioneering** blend of **science and industry** where life sciences, biotechnology, and innovation converge to create **eco-friendly solutions and novel products**. It envisions a **future** where we harness **nature's potential** to meet our needs while **respecting planetary boundaries**.

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

I was always fantasized by scientists and wanted to be one myself.

Something you love? And something you hate?

I am in love with Swiss cheese and couldn't get enough of it and one thing I've learned to dislike is how easily we can take our time for granted. We often get caught up in the busyness of life and forget to cherish the moments that truly matter. It's a reminder to slow down, appreciate the present, and invest in meaningful experiences with loved ones.

Any hobbies outside of Science?

Swimming, badminton, hiking, yoga, reading...



Short CV

- 2015-2019** ★ B. Tech. in Chemical Engineering, Sri Venkateswara College of Engineering, **India**
- 2019-2021** ★ M. Tech. in Process Engineering, UPES, **India**
- 2021-2023** ● Associate Research Specialist at FutureBridge, **India**

