



S.P.L.A.S.H.

Synthetic Polymer Layer for Applied Skin Healing

Sponsorbrochure iGEM Leiden 2019

A little bit about us...

We are the Leiden University iGEM team of 2019. Each year, the international iGEM competition takes place in Boston. iGEM is a synthetic biology competition that challenges students and young academics to resolve real-world issues with the use of genetically modified organisms.

This November we will present our work at the Giant Jamboree in Boston together with over 350 other teams from around the world. The Leiden iGEM team aims for success at this enormous academic event with a new project, focused on designing a novel product for tissue engineering.



Your sponsorship will elevate wound healing and tissue engineering research to greater heights, and potentially improve the lives of the thousands of patients.



Our project

There are currently no efficient treatments for chronic- and burn wounds. However, the discomforts could be treated by replacing the affected tissue with a synthetic substance. For optimal treatment, this replacement tissue should be flexible, strong, and harmless to the human body. Natural substances with these qualities are a rare find, but the suckerin protein found in the sucker ring teeth of the Humboldt squid meets these criteria.



The versatile suckerin protein

Suckerin naturally occurs with varying degrees of flexibility and hardness. Their sucker ring teeth need to withstand much wear and tear. With its varying strength and flexibility, the suckerin protein can mimic a plethora of tissues. We aim to efficiently produce suckerin in various microbes, such as yeast, *E. coli* and *Streptomyces*. By altering suckerin's DNA sequences, we will exert additional control on the protein's most important properties. This allows us to engineer products that can mimic a wide scope of human tissues ranging from sturdy bones to flexible skin.

Opportunities for you

As our sponsor, you will be exposed to a large milieu of highly motivated students, starting companies and senior academics from the fields of biology and chemistry.

Your company has the opportunity to present itself as an organisation that:

- supports young professionals in their pursuit of a career in science
- is committed to tackling complex, real-world problems
- helps to bridge the gap between theoretical research and medical breakthroughs
- encourages creative endeavours in the scientific field



Scientific and social outreach

At the Giant Jamboree, your company will be exposed to over 3000 enthusiastic scientists from around the world. This outreach is increased by our channels on social media where we reach about 600 people per post.

Your company will also be represented on our academic poster and official iGEM website, or "Wiki". Here, we will communicate our developments to the iGEM community. Besides our fellow iGEM competitors, the Wiki will also reach the judging panel of the iGEM competition, which comprises experts from all relevant fields. The Wiki will remain available for all future iGEM participants as a source of inspiration and guidance.

Public outreach is an important objective of iGEM, and vital for the prosperity of our research. We seize every opportunity to present our work at a broad spectrum of events such as scientific conferences, museum exhibitions, and on the radio and television.

