

Introducing...



Left to right top to bottom: Giovi Duivenvoorden, Pieter Schol, Quint van Loosen, Ehsan Razaghi Siahroudi, Lisa Kleinjan, Iris Noordermeer, Bas van Woudenberg, Sebastiaan Ketelaar, Iggy van der Meulen, Jetse van Os, Siheng Li, Hoda Ekhlesi, Bo Berghuis, Chanel Naar

Dear reader,

I am happy to present you the first monthly newsletter of Leiden's iGEM 2021 team! In this issue, we hope to give you a general idea of our project, as well as start introducing our lovely, enthusiastic team members. This month, it's my pleasure to introduce our support team. We will continue to put one of our sub-teams in the spotlight every month, so be sure not to miss out!

Hope you enjoy this issue! Kind regards,
Sebastiaan Ketelaar

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Introductions

Team manager - Chanel

Hi everyone, my name is Chanel! I am a Biomedical Sciences student and am currently in the second year of my Master. As a new challenge I became part of the iGEM team as the Team manager this year. This role makes me responsible to keep the team together and make sure we can achieve the absolute best we can together: Team work makes the dream work! Hopefully we can soon do non-online fun team activities together to grow our team bond even further, but for now online meetings, online fun events and dining together in very



small groups already makes us a strong team and a force to be reckoned with.

During my time within the iGEM Leiden 2021 team, I hope to learn a bit of everything as you will encounter so many different areas during iGEM. Learning opportunities can be from new skills in the lab and experimental design, to modelling and programming, and even entrepreneurship and interviewing skills! As the team manager I can be involved in many different parts of the project, which makes it so much fun to me.



Project manager - Ehsan

Hi!

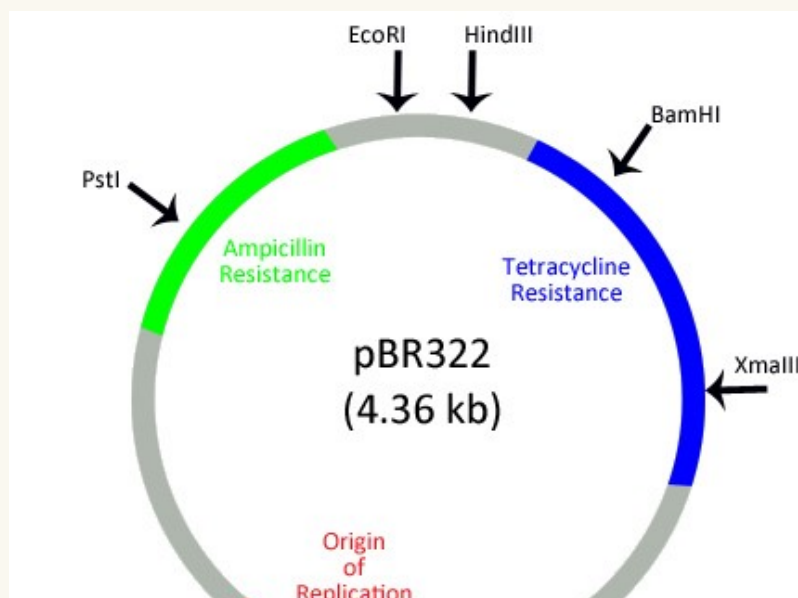
My name is Ehsan Razaghi and I am the project manager of the 2021 Leiden iGEM team. I joined the Leiden iGEM team because I wanted to step out of my comfort zone and learn about biotechnology and synthetic biology. As a bachelor student biomedical science, I did not know much about synthetic biology, but iGEM was a great opportunity to learn more on this incredible topic. In a team with talented students, I hope to learn as much as possible, develop scientific and life skills, and grow as an individual. I hope to use synthetic biology and biotechnology in my scientific career, affecting biomedical scientific research, diagnostics, and therapies in the future.

Finance manager - Iris

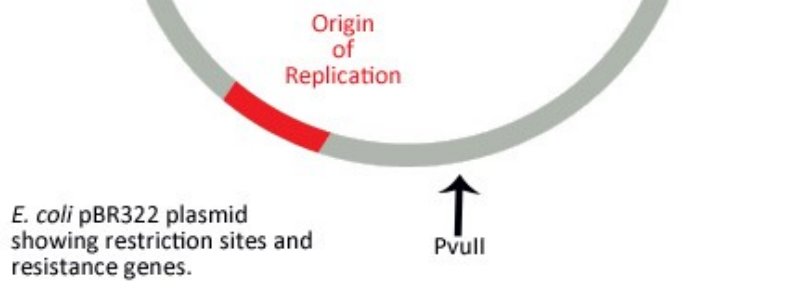
Hello everyone! My name is Iris Noordermeer and I am the finance manager of the iGEM Leiden 2021 team! With this year's team, I am very excited to start our iGEM journey together. Although most of the gatherings with the team are still online, I have a hopeful perspective that during the summer we will be able to do our meetings in person. Being able to solve a worldwide problem with the use of synthetic biology is in my opinion the great thing about iGEM. Developing such a project of course can cost a lot of money. Therefore as the finance manager, it is my job to search for companies who are willing to sponsor our project and to set up crowdfunding. I will do my best to make it a success!



What is a plasmid?



Prokaryotes (i.e. bacteria and archaea) do not have chromosomes, like humans do. Instead, their DNA is stored in a big circle that just floats around in the cell, rather than being contained in the cellular nucleus as is the case in eukaryotes (pretty much any living thing you can see with the naked eye). Besides the main circle, microbes can have plasmids, which are usually smaller rings of DNA, which can be transferred between each microbes. This sharing of genes is thought to be the origin of sex as we know it! These plasmids often contain genes that offer resistance to antibiotics and in this way offer an evolutionary benefit to the microbes

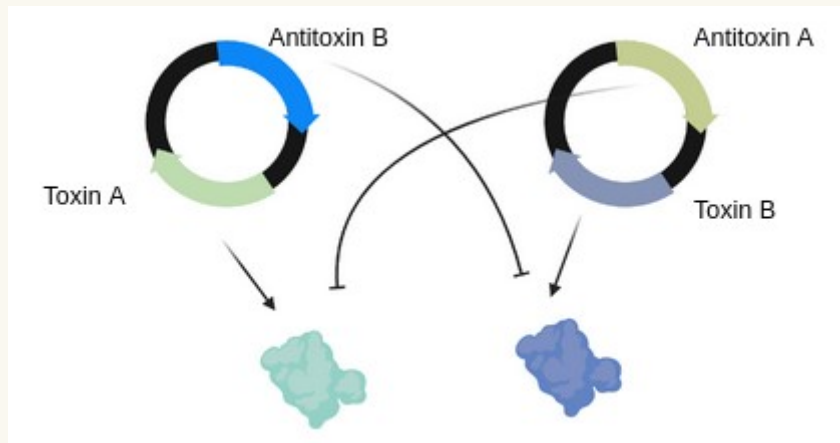


that receive them. In modern biotechnology, these rings of DNA are used as vectors to put genes of your own choosing into cells.

Credit: Wikipedia

Concept behind our project

Concept only - implementation may differ



The idea behind our project is a relatively simple one: make two plasmids that require the presence of each other for the survival of the bacterium that contains them. In this way, we hope to decrease the rate at which these plasmids are transferred - and, more importantly, the synthetic genes that lie on them.

Any bacteria which only pick up one of either plasmids, will inevitably die since they will miss the antitoxin that protects against the effects of the toxin on the plasmid. Because of this, the only way for these genes to spread into the wild is by picking up both plasmids simultaneously - greatly reducing the risks of our synthetic genes and antibiotic resistance genes spreading into the environment.

Sponsorship

We are looking for sponsors who are willing to sponsor our project for this year! Our project depends on the support of sponsors in order to realize our project. Currently, we are focusing on developing a biocontainment and biosafety system in bacteria. Although the release of these organisms is prohibited in most countries yet, it is expected that in the near future this might change. We are aware of the dangers that come along with genetically modified organisms and therefore we do not encourage countries/companies in using them outside the lab. Our mission is that only when this happens in the future, we can provide a reliable biocontainment system to mitigate the risk. If you would like to contribute to

Collaborations

To any fellow iGEM teams: we are very much looking to cooperate with you! We hope to set up a few collaborations with any team that is also working in the area of biosafety or is looking to make their project made extra safe by adding your biobrick to our plasmid system. For inquiries surrounding collaborations, please contact igem@science.leidenuniv.nl

our project in the form of a sponsorship
you can send an email to
igem@science.leidenuniv.nl.



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