



Osher Gueta

In recent years, the need for developing various biological drugs has increased due to new medical challenges, such as antibiotic resistance and toxicity of different chemotherapy drugs. In our laboratory, we are engaged in creating materials of biological origin yet incorporating synthetic elements within them. Our research focuses on engineering bacteria to be used as factories to develop those advanced materials to enable and shorten the production process of new biological drugs with new or improved properties that do not exist in nature.

The world of pharma is waiting for me.

Combining synthetic materials in proteins is a complex process. While several methods exist to achieve this, each has advantages and disadvantages. In our research, we aim to develop the best methods to accomplish this task, addressing one of the major pitfalls of most existing strategies: the lengthy processing time and lack of precision in installing the synthetic modifications. If successful, our method will permit the rapid and precise production of various semi-synthetic materials. It will open the doors to dozens of new studies in biotechnology, advancing a significant step towards novel biological medicines for various diseases.

Research in engineering at Ben-Gurion

I am a master's degree student in the laboratory of Dr. Miriam Amiram, who always encourages us to think independently, to do everything in the best possible way, and to learn (and maybe even mainly) from failures. The knowledge that there are those who help and support but also enable independence, combined with my love for biological research, is why I decided to study in the Biotechnology Engineering department.

In addition to my research, this is my third year as a volunteer in the organization 'Engineers Without Borders Israel' whose goal is to find different engineering solutions that can help and develop communities in Israel and around the world, emphasizing green and sustainable development. In my current role, I coordinate the activities of the Ben-Gurion branch and get to work with engineering students from all departments of the faculty.

The activity in the branch gives additional meaning to the study period. It enables each branch member to apply the tools we acquire during our education and research toward positive action in the world.