

Facilities for Naming in the **Carasso FoodTech Innovation Center**



Architect's rendering of the Carasso FoodTech Innovation Center





Prof. Marcelle Machluf, Current Dean of the Faculty of Biotechnology and Food Engineering

The Technion's Faculty of Biotechnology and Food Engineering is Israel's primary source of food engineers and is one of few faculties in the world that combines the disciplines of bioengineering, food science and technology, and life sciences. The Carasso FoodTech Innovation Center is an essential part of the Faculty's Bio-Health Technology Innovation Initiative to develop green sustainable technologies by providing both academic and private sector entrepreneurs with a pipeline to rapidly accelerate the development of their nascent technologies. The Center's aim is to provide solutions to the unmet challenges of sustainably supplying a healthy, tasty, and nutritious diet to a growing world population. Serving as a hub for entrepreneurs, students, and industrial partners, the Center will foster applicative and translational research, collaborations, unique hands-on training, and small-scale production using semi-industrial equipment.



Semi-Industrial R&D Production Facility

Carasso FoodTech Innovation Center

BUILT UP AREA

30,140 sq. ft.

2,800m²

(2 STORIES)

SEMI-INDUSTRIAL R&D
PRODUCTION FACILITY

6,500 sq. ft.

600m²

EDUCATIONAL R&D KITCHEN

1,775 sq. ft.

165m²

FERMENTATION
TECHNOLOGY UNIT

1,075 sq. ft.

100m²

ANALYTICAL TEACHING
LABORATORY

1,990 sq. ft.

185m²



Students and researchers in the existing facilities

Extending over some 2,800 m² (~30,140 sq. ft.), the two-story Center will feature the Semi-Industrial R&D Production Facility, the Fermentation Technologies Unit, the Laboratory for Polymer Technologies, the Educational R&D Kitchen, the Cultivated Meat R&D Facility, the Visitors & Educational Center, the Analytical Teaching Laboratory, a graduate student's office, five faculty offices, a meeting room, and three research labs for new faculty members.

Semi-Industrial R&D Production Facility

The Semi-Industrial R&D Production Facility will cover an area of ~600 m² (~6,500 sq. ft.). This semi-industrial processing center will be equipped with state-of-the-art food

technology operation units, allowing the development and production of healthy and sustainable foods, from conceptualization to realization. It will support FoodTech research and development, as well as hands-on training of engineers and entrepreneurs from all disciplines. The traditional and novel processing units will catalyze feasible and sustainable production of future foods, promoting health and well-being. The synergy of the FoodTech Innovation Center with the Faculty of Biotechnology and Food Engineering will position Israel and the Technion as leaders in the evolution of the field.

Fermentation Technologies Unit

The Fermentation Technologies Unit, extending over ~100 m² (~1,075 sq. ft.), will serve as a national semi-industrial center for personnel training as well as research and development efforts of academics, entrepreneurs, and industrial partners. The Unit will be designed as a small factory with a diverse set of fermentation equipment accessible to all users.

Fermentation has been a central process in food production and preservation for thousands of years as an alternative to thermal processes. First developed in biblical times for the production of wine, this ancient technology has been developed by science and technology for use in numerous industries including beer brewing, dough production, fermentation of dairy and meats, and pickling foods from numerous natural sources such as plants and algae, as well as winemaking.

The field of precision fermentation has emerged recently as a promising platform for direct large-scale production of a variety of biological products, from fermented foodstuffs to cell-based therapeutics. The success of such endeavors relies heavily on highly trained professionals and Technion graduates may find employment in micro-breweries, boutique food manufacturers and futuristic projects, such as cultured meat and non-dairy milk.

Educational R&D Kitchen

The Educational R&D Kitchen will cover an area of ~165 m² (~1,775 sq. ft.) on the ground floor of the FoodTech Innovation Center and serve as the center of culinary sciences in Israel. It will include a professional production kitchen with the latest equipment to allow the design and conceptualization of "futuristic healthy foods," such as 3D-printed food, lab-grown meat and the use of proteins from novel sources. Another exciting part of this facility will be a sensory



Assistant Professor Omer Yehezkeili, the Faculty of Biotechnology and Food Engineering



Student working in the Reactor Laboratory

Taste Testing Room in which people will assess the taste, smell, sound, appearance, and texture of developed products. This will allow the rapid translation of ideas into tasty and marketable new products.

Cultivated Meat R&D Facility

Lab-grown meat holds great promise for overcoming food shortages and can provide a sustainable alternative without compromising safety or nutritional value, raising environmental concerns, or harming animals. The Cultivated Meat R&D Facility focuses on developing bioengineering solutions to enable large-scale commercially viable culturing of cells. Covering an area of $\sim 75 \text{ m}^2$ ($\sim 807 \text{ sq. ft.}$), this state-of-the-art facility will feature semi-industrial bioreactors, extrusion-process meat equipment, and high-pressure sterilization equipment to enable development of novel tissue engineering approaches to convert animal cells into meat.

Visitors & Education Center

The FoodTech Innovation Center will educate the public about the advantages of emerging food innovations. The Visitors & Education Center, covering an area of $\sim 50 \text{ m}^2$ ($\sim 538 \text{ sq. ft.}$), will provide a hands-on and tasty experience and offer education and training workshops for entrepreneurs and industry professionals.

Research Laboratories

One of the Technion's highest priorities is faculty recruitment. In order to recruit the high-quality researchers the Technion is interested in attracting, it must be able to provide them with state-of-the-art equipment, technical support, and the necessary resources to carry out their research. The top-caliber researchers that the Technion is interested in hiring are also in demand at the best universities abroad, and the Technion must be able to provide comparable research



Analytical Teaching Laboratory

conditions in order to recruit and retain the best candidates and ensure that they have the resources they need to fulfill their potential. The Research Laboratories in the Center will provide state-of-the-art facilities for outstanding researchers who are conducting vital basic and applied research in a wide variety of food engineering areas.

Analytical Teaching Laboratory

Laboratory courses using state-of-the-art equipment are indispensable for students majoring in food science. In the Analytical Teaching Laboratory students will learn to use a wide range of analytical instruments

to gain the hands-on experience with food chemistry and food analysis necessary for their future careers in the food industry.

Laboratory for Polymer Technologies

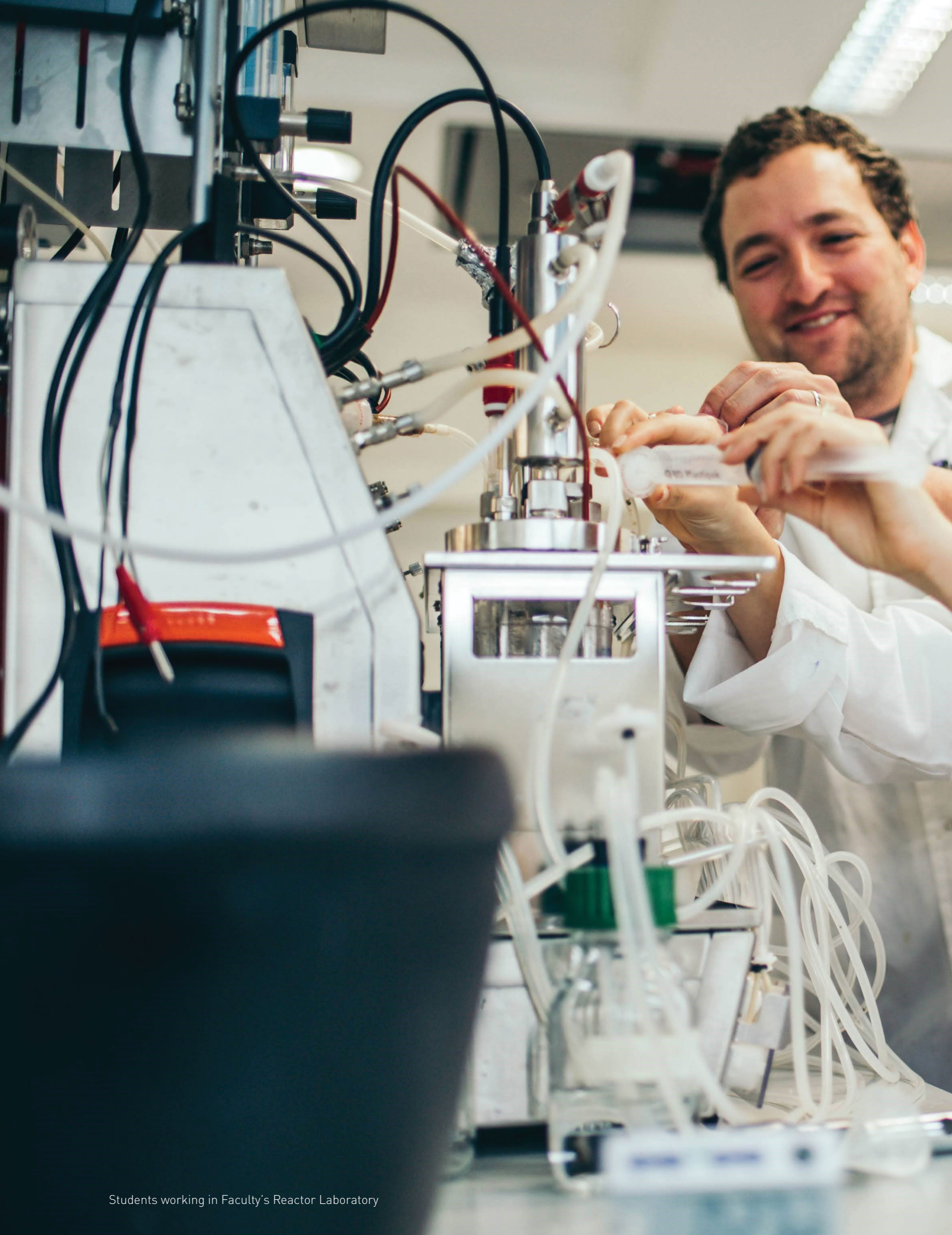
Food packaging plays a key role in enabling easy transport of foods and protecting them from contamination. In the Laboratory for Polymer Technologies, students will learn how to develop and optimize polymer products to ensure that food stays safe and fresh longer. This laboratory will demonstrate to students the mechanical and physical properties of polymeric products such as films, plastic panels, paper, cardboard, etc.



Naming Opportunities

Donor recognition will be in accordance with Technion standards.

Description	Cost (\$)
Ground floor naming	1,500,000
Upper floor naming	1,500,000
Semi-industrial R&D Facility	3,000,000
Cultivated Meat R&D Facility	1,500,000
Analytical Teaching Laboratory	1,200,000
Educational R&D Kitchen	1,000,000
Fermentation Technologies Unit	1,000,000
Laboratory for Polymer Technologies	1,000,000
Visitors & Educational Center	500,000



Students working in Faculty's Reactor Laboratory





Biosensor for Bacterial Contamination