



This Industry-Academy Day, which was held in Braude on December 13, 2018, was organized by ORT Braude Academic College of Engineering and with the support of The COST Action TD1409, Mathematics for Industry Network ([MI-NET](#)) and The Holon Institute of Technology.

[/http://www.braude.ac.il/conferences/2018/industry-academy\\_day](http://www.braude.ac.il/conferences/2018/industry-academy_day)

During this event, Mr. Asher Cohen (Management of Technology Department in the Engineering and Technology Division, [Tnuva](#)) presented the following industrial challenge:

**In what ways can we maximize protein yield based on historical data and analytical relationships in dairy manufacturing?**

Tnuva is the largest food manufacturer in Israel; its sales account for 70% of the country's dairy market as well as sales of meat, eggs and packaged food. One of its most selling products, which can be found in almost every Israeli house, is Cottage cheese. Dairy production in general is very challenging and in particular Cottage; mainly because many different disciplines kick in and affect the productivity of the line. Raw milk, process technologies, and raw materials used in the process, among others, affect the process of protein yield. Microbiological, chemical, and heat transfer effects, integrated with variance in supply, operation, and logistics all impact the output of the production lines.

An overview on the existing techniques was given first and then the challenge was described in details by emphasizing its difficulties.

The audience, which was composed of 32 academic people from different areas such as: Mathematics, Industrial Engineering and Management, Biotechnology Engineering, Agricultural Research Center and several R&D people from Tnuva and related companies.

The event schedule is given next:

10:00-10:30	Gathering
10:30-10:45	Opening: President Prof. Arie Maharshak, ORT Braude College  Prof. Sarit Sivan, Vice President for Academic Affairs, ORT Braude College
10:45-11:25	Challenge presentation (Mr. Asher Cohen)
11:25-13:00	Brainstorming and modeling
13:00-14:00	Lunch
14:00-15:30	Brainstorming and modeling
15:30-15:45	Closing

Several interesting directions for further research was proposed and we plan to examine of the following possibilities: Compose a core group out of the participates on that day that will continue to work with Tnuva on this problem and the second is to guide two MSc students that will split their time between Braude and Tnuva with the goal of testing and having simulations in order to get a better understanding of the problem, its data and to try and develop a mathematical theory to support or unsupported the Engineers conjectures regarding the above.

The event was declared as a big success and we are sure that this and other such events will convince local industry to use the academy's knowledge and man power as a necessity to understand, model and optimize procedures in their related industrial areas.

