



Technion - Israel Institute of Technology

Professor Moshe Sheintuch
Deputy Senior Vice President

Oct.28, 2010

Ms. Michal Neuman
Head, The Quality Assessment Unit
Council for Higher Education
Jerusalem

**Re: Response to the Recommendations of the CHE's Evaluation
Report On the Mathematics Program in the Technion**

Attached you will find the Response to the Recommendations of the CHE Evaluation Report of our Mathematics Program. We do not have any comments to General Report in that area

The reply represents the positions of both the Faculty of Mathematics and the Technion Management; it was written by the Faculty and the Management is aware of the issues raised.

Sincerely,

A handwritten signature in blue ink, appearing to read 'M. Sheintuch'.

Moshe Sheintuch

cc.: Professor P. Lavie, President
Professor P. Feigin, Senior Executive Vice President
Professor M. Sidi, Executive Vice President for Academic Affairs
Dr. A. Stein, Executive Vice President and Director General
Professor O. Shmueli, Executive Vice President for Research
Professor Y. Mamane, Dean of Undergraduate Studies
Professor M. Shpitalni, Dean of the Graduate School
Professor Y. Rubinstein, Dean, Faculty of mathematics

Response of the Department of Mathematics to the report of the MALAG evaluation committee

17.10.10

We thank the committee for its thorough report and for its positive critical review of the department. Below we list specific points where we address certain issues and recommendations made by the committee: As the committee itself pointed out on page 7, we have already identified some of the issues that were raised by it, and have started certain initiatives in these directions even before the committee's visit.

The committee wrote on page 4 that "The age distribution of the faculty is of some concern". Indeed the department initiated a few years ago a drive to hire new young faculty. This was recognized by the committee which stated on page 6 that we have "recently hired outstanding young mathematicians". The Technion management has also realized the need to rejuvenate the faculty and supported our effort to hire a number of outstanding young faculty members. We plan to continue this drive in the coming years, and thus we expect to balance the age distribution. We founded this year a special scouting and recruiting committee that includes young members of the faculty.

The committee referred on page 4 to the ongoing collaboration with other departments and with industry, but recommended to enhance such activity. We hold a joint seminar in discrete math with Haifa University, we host the Technion-wide applied math seminar, and we are active members of the Technion-wide probability seminar. We are actively seeking to enhance our interaction with other departments. Thus, we hired a young faculty member (Dr. A. Yehudayoff) who has strong ties with the CS department, Prof. S. Mendelson has just created a research center with a colleague from EE, and we are trying to recruit a new faculty member in computational math who will interact with a few departments on campus. In addition, the Applied Math. Interdisciplinary Graduate Program offers each year at least one course of general interest on math modeling (for instance, the foundations of optics, math models in physiology, foundations of elasticity, etc.). These courses attract graduate students from all over the campus. We also mention that for many years our applied mathematicians have been consulting to numerous projects in many Technion departments, including mechanical engineering, biomedical engineering, aerospace engineering, chemistry, physics, computer sciences, electrical engineering and biotechnology. One of the strategic goals that we have identified is to also create contacts with the medical school.

The committee commended our attempts to broaden the scope of applied mathematics activity. We have set ourselves a strategic goal to increase this activity in the department. This was indeed recognized by the committee (top of page 8).

The committee thinks that the library hours are too limited. We agree with this statement. In particular, we compared our library to other libraries on the campus and found that we are open for shorter periods. Our library budget

and manpower were reduced in recent years, and we need more manpower to extend the library hours.

The committee was impressed by the remarkable job the department is doing in providing massive teaching services to the Technion. In particular it commended our MathNet service. We are constantly working to improve the MathNet service and to expand it. We are pleased that the Technion administration has been recently helpful to us in this aspect. However, we feel that the MathNet service is not enough. There is a strong need to provide students (in particular in Math, CS, Phys, EE) with grading of noncomputational homework assignments which cannot be done via MathNet. We hope that the Technion administration will substantially increase its budget for this purpose. In fact, the committee also recommends this (page 9 of the Technion report and page 6 of the general math report).

The committee recommends (page 8) to "tailor service courses to specific needs of various groups of students". We welcome this recommendation. In fact, we constantly discuss needs of different departments and see how to meet their individual needs. In particular, we welcome interactions with the medical school and the biology department towards enhancing the current courses they receive from us and maybe also to create new advanced courses.

The committee recommends (page 8) to improve and stabilize the working conditions of the teaching adjuncts. We agree with the committee that the adjuncts are doing excellent job for the Technion. We have been working constantly over the last 2 years on improving their working conditions. For instance, the Technion offered the adjuncts a new and improved working contract, some adjuncts now get multiyear academic appointments, and we are in the process of promoting a few outstanding adjuncts. In addition, we identified this year a small group of excellent adjuncts who have been with us for a long time. This group gets special benefits, including preference in course assignments; all this in order that they will feel more "at home" in our department.

The committee suggests that the three - year undergraduate program may be "too structured", and recommends to have less mandatory courses. Here we disagree. In fact, a significant portion of the study program consists of elective courses. Actually, some of our faculty members think that the opposite is true, and we should have more mandatory courses. We feel that all in all we have a good balance now.

The committee recommends establishing more collaboration between the graduate program at the Technion and Haifa University. We now have some joint activity with Haifa University in discrete mathematics. We welcome students from Haifa University in all our graduate courses. We plan to follow the committee's recommendation and suggest to our students to take graduate courses at Haifa University in areas where Haifa University has particular strength.

In its general report the committee considered the issue of "recruiting of bright high school students". We too believe in this approach, and defined it as one of our strategic goals. We decided, though, to limit ourselves to extremely strong students, say, the top 3%-5% of the students. For these students we now offer several programs, including after-school classes for 7th and 8th grade students, a summer camp (TOMBA) in number theory for graduates of 9th-11th grades, and a two-semester course (awarding academic credit) in problem solving, directed to undergraduate students as well as to students in 11th-12th grades. All these programs are directed and coordinated by senior faculty members.