

### **§3.5.1 The Teaching Staff**

#### **§3.5.1.1 Profile of the Teaching Staff**

##### **§3.5.1.1.a The Teaching Staff: Tenure Track**

There are twenty-eight tenure track faculty members, of whom twenty-three have tenure. With the exception of one tenured faculty member on the old track for teachers, who retires at the end of this year, all are actively engaged in research. Of these, twenty-four are in Pure Mathematics, three in Applied Mathematics, and none in Statistics. This imbalance is problematic, because most of our students are studying Applied Mathematics and some are studying Statistics. The situation is not quite as bad as it sounds, because much of the teaching load of the department is either basic courses or service courses which do not depend on specialization. Furthermore, some of the Pure Mathematicians can and do teach courses in Statistics.

There is a lot of shifting around among courses. Most people are not teaching the same courses that they taught five years ago, and some of the staff in Pure Mathematics are willing to teach Applied courses. However, in scheduling there is always a problem covering the Statistics courses and in offering enough electives in Applied Mathematics because of the imbalance in the staff. The department has hired another Applied Mathematician for the coming academic year. Significant attempts by the previous Chair to recruit at least one Statistician failed.

The only serious conflict in the department is a long-standing debate which is summarized as "excellence vs. needs of the department" in hiring new staff members. The two positions are not actually that far apart, because even those favoring "needs of the department" would not support a mediocre candidate and vote down a truly exceptional candidate. The debate is over how much of a role the balance between various branched of pure and applied mathematics, as well as the teaching needs of the department. should play when choosing among the nine or ten excellent candidates applying for one open position.

##### **§3.5.1.1.b The KAMEA program for Immigrants from the FSU**

The Department of Mathematics has taken a special interest in finding research opportunities for new immigrants from the former Soviet Union ever since the major wave of immigration in 1991. It is well known that the former Soviet Union has been one of the powerhouses of mathematics, and many excellent mathematicians sought employment at Bar-Ilan University. The Department of Mathematics succeeded in incorporating a significant number of immigrants on regular departmental positions (about 20% of the Department), but the resources of the Department were not sufficient to bring in other excellent applicants on regular positions. Fortunately, the Israeli government provided (and continues to provide) a sequence of programs which has enabled us to take in many of the applicants. Their program follows the following steps:

1. Normal Absorption Ministry support for 3 years for virtually all immigrant academics from the FSU;
2. "Giladi" program for 3 years, on the basis of a competition among all immigrant researchers.
3. "KAMEA" program for renewable 3-year intervals, which is virtually automatic for any regularly-publishing scientist who has completed the

Giladi program. The KAMEA program has three ranks: researcher, senior researcher, and research associate, which are commensurate in salary respectively with Lecturer, Senior Lecturer, and Associate Professor.

4. The University has the option to convert a KAMEA position to a regular academic position and continue receiving funding from Absorption Ministry for the portion of the salary corresponding to the KAMEA program.

Some of the KAMEA scholars have been at Bar-Ilan since 1991; currently, the KAMEA scholars comprise over 25% of the researchers in the Department of Mathematics. Although the KAMEA program is strictly a research program, with no teaching obligations, the KAMEA scholars have requested to teach courses, largely because this assimilates them into the Department better (since all of our regular faculty are expected to lecture as well as conduct research). This is welcomed by the Department, since there is a heavy teaching burden, and some of the KAMEA scholars are among our best lecturers. Accordingly, the Department usually provides a course load of about 3 hours per semester for KAMEA scholars.

The KAMEA scholars have a very impressive record of publications, as well as of invited lectures in international conferences and prestigious research institutes, as seen by their enclosed curriculum vitae. They are active participants in the department's research seminars, and their contribution to the research atmosphere of the Department of Mathematics is enormous. One KAMEA scholar, Boris Kunyavskii, has been put on the regular academic track, because of his consistently outstanding academic record; another, Abraham Trahtman, has received prominence in the international media for solving a major problem in the theory of networks.

The KAMEA scholars participate in departmental meetings, advising, reading theses, revising the curriculum, applying for grants, inviting guests and mentoring postdocs as full members of the department. That they do not have tenure is irksome to them and worrisome to the rest of the department, but the department does not have the resources to make annual payments of the differential required by the university to transfer them to the regular track.

Recently, it was reported that the Government intends to cut about 40% of all existing KAMEA positions in the country, for budgetary reasons. If realized, this will have a tremendous negative impact on research in Israeli Universities in general, and in our department in particular.

Here is a list of the current KAMEA scholars at the Department of Mathematics and their fields:

Prof. Tatiana Bandman, *algebraic geometry*  
Dr. Yakov Krasnov, *applied mathematics*  
Dr. Mordecai Levin, *probability theory*  
Prof. Elijah Liflyand, *Fourier analysis*  
Prof. Michael Megrelishvili, *topological dynamics*  
Prof. Eugene Plotkin, *group theory, Lie theory*  
Prof. Leonid Shuster, *analysis*  
Prof. Abraham Trahtman, *combinatorics*

In addition, Dr. Alexei Kanel-Belov, who immigrated in 2004, has just started the Giladi program and is expected to continue to the KAMEA program. Belov has done

remarkable work on the connection between the Jacobian and Dixmier conjectures (with M. Kontsevich, a Fields medalist).

#### **§3.5.1.1.c The Teaching Staff: Adjunct Faculty**

The adjunct faculty members are generally either postdocs in the department or graduates with a Ph.D. The exceptions are in Statistics, Applied Mathematics and Financial Mathematics. Most of the adjunct faculty have a primary affiliation in a different department of the university or in a College, and most are actively engaged in research.

#### **§3.5.1.1.d The Teaching Staff: Teaching Assistants**

The teaching assistants are studying in the department either for a Master's degree or for a Ph.D. It occasionally, though rarely, happens that none of the department's students has the expertise required by a certain course, and in that case a teaching assistant who is a student at a different university is hired.

#### **§3.5.1.2 Specializations and Skills Required by the Teaching Program**

Most of the faculty can teach most the courses given in the first two years. The major difficulties which arise are with courses in statistics, courses in applied mathematics, and courses in computing.

With regard to courses in statistics, the department does not have any statisticians, for reasons given in the section on the history of the department. Some statistics courses are taught by graduate students, some are taught by mathematicians, and some are taught by adjunct faculty. The situation is regarded as unsatisfactory both by the faculty and by the students.

The situation with regard to applied mathematics is improving, with one new faculty member hired in 2007 and another scheduled to arrive in 2009. Nonetheless, because the majority of the students are in applied mathematics, there are a number of courses to be covered which only the applied mathematicians can teach, and this creates difficulties in covering all these courses. Again, the department has recourse to adjunct faculty. A particular problem is the lack of electives.

According to the settlement when the Departments of Mathematics and Computer Science separated, the department's courses in computer sciences are taught by lecturers provided by the Department of Computer Science. The instructors provided are usually graduate students, rather than regular faculty, and again the arrangement is not always satisfactory.

#### **§3.5.1.3 Updating Staff Members with Regard to the Program of Study**

Major policy changes with regard to the requirements for the degree, after being decided in the departmental Teaching Committee by consensus or by vote, are sent to the other members of the department by email. Minor changes are usually explained to the instructors of the particular courses affected by the change.

With regard to information about individual courses which a faculty member is going to teach, the syllabi of the courses in the department are on the website. The instructor is either told or finds out by inquiry who taught the course the previous year, and the previous instructor makes available exams, exercises, and advice about

the course. For a new course, these explanations are usually given by the person who made up the syllabus.

#### **§3.5.1.4 Hiring and Promoting the Teaching Staff**

Hiring and promotion in the Department of Mathematics are initiated by the Chair, upon consultation with the Appointments and Promotions Committee. Normally, this Committee is convened in November after the files for the upcoming year are assembled, but also the Committee can be convened at other times to deal with an exceptional candidate. The procedural rules are contained in the enclosed document. When a candidate is agreed upon, the Chair requests approval from the Faculty Committee (TUM) to open procedures in the University Appointments Committee; they set up a Professional Evaluation Committee, which reports back to them, to present the Rector with a final recommendation. The policy of the Department of Mathematics has been to give priority to the applicant with the best academic record, although the field of research also is taken into account.

#### **§3.5.1.5 Credentials and Election of the Chair**

The Chair must be a tenured faculty member. Usually the Chair is chosen to be someone who gets along reasonably well with most members of the department, and has demonstrated both research ability and organizational talent. The candidates for Chair are officially chosen by a Search Committee elected by the tenured faculty. Since the major difficulty is to find someone willing to take the job, there are rarely two candidates, and various senior members of the department, including the current Chair, may take part in preliminary efforts to find a candidate and convince him or her to run. Once at least one candidate has been found, it is easier to constitute a Search Committee, since the project is no longer daunting.

The election is held during term time and the new Chair takes office on the first of October. This is fine if a candidate has been found by the end of the Spring term, but if not, the Chair cannot be officially elected until mid-October, when the term starts, and the appointment will not be official until a month or so later when the Management Committee of the university meets and authorizes the appointment.

#### **§3.5.1.6 Teaching Hours at Each Level**

The standard teaching load is eight hours a week for regular faculty, and twelve to sixteen hours a week for faculty in the teaching track (which has been almost completely phased out). Faculty members who are directing graduate students get a reduction to six hours a week, as do Full Professors over the age of sixty.

The standard teaching load for graduate student teaching assistants is eight hours a week. Postdocs teach up to four hours a week. Adjunct faculty with a primary affiliation elsewhere are restricted in the number of hours that they may teach in the department; usually four or less, so that most adjunct faculty members teach one, or at most two courses in the department.

#### **§3.5.1.7 Responsibilities of the Staff as Advisors of Student Projects and Theses**

All tenure-track members of the faculty are responsible for advising Master's theses and Ph.D. dissertations. They are given reduced teaching time at the rate of

one weekly hour for a doctoral student and for two Master's students, up to a maximum of two hours. The KAMEA scholars and the Emeriti are also invited to advise students, and some do so. Advising students is one of the criteria for promotion and tenure in the tenure track.

#### **§3.5.1.8 Formulation of Policies with Regard to Recruiting and Absorbing Teaching Staff, Current and Future**

The departmental policy with regard to hiring tenure-track faculty members was formulated after intense debate by a committee representing various opinions.