Committee for the Evaluation of Physics Studies

Weizmann Institute of Science

The Feinberg Graduate School

The Faculty of Physics

Evaluation Report

December 2007

Contents

Chapter 1- Background

At its meeting on March 8, 2005 the Council for Higher Education (CHE) decided to evaluate study programs in the field of Physics during the academic year 2005-2006.

Following the decision of the CHE, the Minister of Education, who serves ex officio as the Chairperson of the CHE, appointed a committee consisting of:

- ***Prof. Hanoch Gutfreund*** - The Racah Institute of Physics, The Hebrew University, Committee Chairman.
- ***Prof. Daniel Ashery*** - School of Physics and Astronomy, Tel Aviv University.
- ***Prof. Moshe Deutsch*** - Department of Physics, Bar Ilan University.
- ***Prof. James Langer*** - Department of Physics, University of California Santa Barbara, U.S.A.
- ***Prof. Stephen Lipson*** – Faculty of Physics, the Technion, Haifa.

Ms. Alisa Elon- Coordinator of the committee on behalf of the Council for Higher Education.

Within the framework of its activity, the committee was requested to:

1. Examine the self-evaluation reports, which were submitted by institutions that provide study programs in Physics, and hold on-site visits to those institutions.

2. Present the CHE with final reports for the evaluated academic units and study programs - a separate report for each institution, including the committee's findings and recommendations, together with the response of the institutions to the reports.

3. To submit to the CHE a report regarding its opinion of the examined field of study within the Israeli system of higher education. The committee will submit a separate report to the CHE in this matter.

The committee's Terms of Reference document is attached as **Appendix 1**.

The first stage of the quality assessment process consisted of self-evaluation by the institutions. This process was conducted in accordance with the CHE's Guidelines for Self-Evaluation (of October 2005) and on the basis of the committee's specific instructions, as set forth in their letter to the institutions dated December 21, 2005.

Chapter 2-Committee Procedures

The committee held its first meeting on March 26, 2006 during which it discussed fundamental issues concerning Physics study programs in Israel and its quality assessment activity.

During the period June-July 2006 the committee members received the self-evaluation reports.

In November 2006, the committee members conducted a full-day visit to each of the institutions offering study programs in the field under examination. During the visits, the committee met with the relevant officials within the organizational structure of each institution, as well as faculty and students.

This report deals with the Faculty of Physics at the Weizmann Institute of Science.

The committee's visit to the Weizmann Institute of Science took place on November 22, 2006. The schedule of the visit, including the list of participants representing the institution, is attached as **Appendix 2**.

The committee members thank the management of the Weizmann Institute of Science, the Feinberg Graduate School and the Faculty of Physics for their self-evaluation report and for their hospitality towards the committee during its visit.

Chapter 3- Evaluation of the Faculty of Physics at the Weizmann Institute of Science

I. Introduction

The Weizmann Institute of Science (WIS) was established in 1934 as the Sieff Research Institute, and was re-named after Dr. Chaim Weizmann, the first president of the State of Israel, in 1949. Today, it comprises over 800 research scientists, about 245 of which are professors heading research groups. The graduate school of the WIS, The Feinberg Graduate School (FGS), was founded in 1958. It has been accredited by the Council of Higher Education to grant M.Sc. and Ph.D. degrees in Physical, Chemical, and Life Sciences, Mathematics, Computer Sciences, and Science Teaching. About 1000 students are currently enrolled at the FGS, including 90 Ph.D. and 45 M.Sc. in the Physics programs. About 20-25 students are accepted annually to each of these two degree programs.

The WIS is unique on the Israeli Academic scene in several respects:

- WIS is primarily a research institute, which has also a graduate school. In contrast, all the other Israeli universities are, by definition, primarily institutes of higher learning, even though scientific research constitutes a major, even dominant, part of their academic activity. This has implications for the general atmosphere at, and the academic requirements and goals of the FGS.

- WIS does not have an undergraduate school. Hence, its students are drawn from among undergraduates of other universities and colleges in Israel and abroad. It is interesting to note that although the high international reputation of the WIS is broadly considered to be a loadstone attracting the best Israeli B.Sc. graduates, some WIS faculty expressed a diverging opinion, namely, that the best Israeli B.Sc. graduates prefer to stay at their home universities where they are already familiar with the procedures and requirements, and know well the prospective thesis advisors.

- All WIS departments are in the exact or life sciences disciplines. So are all M.Sc. and Ph.D. programs at the FGS (except, perhaps the Science Teaching program). In contrast, all Israeli

universities (with the arguable exception of the Technion) include also faculties of social sciences, humanities, etc. The relative homogeneity of the WIS disciplines facilitates decision making and quality control in both teaching and research.

- Several departments of the WIS, other than Physics, have also physicists on their staff. Thus, in principle, the pool of potential lecturers, and the variety of subjects, that the FGS can draw from is larger and considerably more varied than that available in the Faculty of Physics only.

- Albeit remunerated, teaching at the FGS is fully on a voluntary basis. This is in contrast with all other universities and colleges in Israel, where teaching (generally eight frontal hours per week) is mandatory for all faculty members. This has important implications, mostly adverse, for the availability and quality of lecturers for the obligatory courses, the range of elective courses taught in any particular year, the continuity of the subject-matter in related courses, the year-to-year uniformity of the contents and level of a particular course, etc.

Some of these special features of the WIS, and their impact on the Physics program at the FGS, are considered in more detail below.

The declared aim of the Physics program at the FGS is "To develop the students' research abilities and assist them in implementing these abilities in the framework of the research group". To fulfill this mission the FGS endeavours to provide a broad base of both basic and advanced Physics knowledge to facilitate movement from one research field to another. The formal courses are regarded, however, as being only supplementary to the thesis research: "The work carried out in close cooperation with the advisor is the most important and effective element in the student's education". The Physics program is indeed found to be guided strongly by those two statements.

II. **The Faculty of Physics**

II.1 **Structure**

The Faculty of Physics has been established in 1954. It has a faculty of 44, with 13 Emeriti (numbers as of December 2005), which, however, take an active part in teaching at the FGS. Due to shifts in the research interests, the Faculty was reorganized in 1990 into three Departments: Particle Physics, Condensed Matter Physics, and Physics of Complex Systems. However, the research interests within the Faculty are broader: optical, molecular, atomic, nuclear and plasma physics are also being pursued, as well as Biological physics and astrophysics. The current

theorists-to-experimentalists ratio is 4:3. This ratio is likely to change in favour of the experimentalists within the next few years due to new hiring.

II.2 **Faculty planning and its impact on the studies program.**

There is no long-range specific faculty planning program, since this was deemed to be impossible to follow because of the small and fluctuating number of suitable candidates available each year. The Physics faculty went through a continuous transition from a main focus on particle, nuclear and high-energy physics to the broader range of subjects mentioned above. This was accompanied by a decrease in the number of faculty from 53 in 1992 to 43 in 2006. This extrapolates to 40 within the next 4 years without new hiring. To heed off this trend the Faculty is seeking to hire new high-quality researchers. Four new appointments were made for 2007, and 2-3 more may still be made. We have been told that although the appointment process is careful, highly selective, and very stringent, there is no WIS-management-imposed limit on hiring (within reason), and slots are being made available as dictated by the availability of suitable candidates. It should be noted that the number and variety of faculty members has only an indirect impact on the FGS teaching program, since only a small number of the faculty teaches courses. In addition, the teaching requirements at the Physics program at FGS are being taken into consideration only marginally, if at all, in considering new hiring. However, the number of prospective advisors does have an impact on the number of students that can be accepted to the M.Sc. and Ph.D. programs.

III. **The Physics program**

III.1 **Acceptance and governing bodies**

The physics program is planned and overseen by the Studies Board of the Faculty of Physics. Students' acceptance is based on their record of studies and a personal interview. The number of students accepted to the program is limited by the average size of the research groups and the availability of fellowships. In general 20-25 students are accepted annually to the M.Sc. program. The number of Ph.D. students is restricted to about 5 per advisor. These numbers are also limited by the availability of faculty members to serve on the supervising committee of each Ph.D. student.

The Studies Board supervises the acceptance of students and the teaching program, seeks lecturers for the various courses and develops future programs. Much of this responsibility lies on the chairman of the board. Currently, the Studies board is headed by Prof. Shimon Levitt, who takes a very active role in the admission process, interviewing each candidate, in teaching one of the main obligatory courses, in seeking out lecturers for the obligatory and elective courses, in

advising the students, and in directing the program in general. While Prof. Levitt's dedication is, of course, appreciated and applauded by this committee, and, more importantly, by the students, the FGS and the Faculty heads should make every effort to expand and deepen the involvement of as many faculty members as possible in the Physics program at the FGS.

III.2 **Structure of the M.Sc. program**

The following will deal mostly with the formal teaching at the FGS. As this concerns almost exclusively the M.Sc. studies, we will concentrate here on this program.

The program is divided into three tracks: Physics, Applied Physics, and Biological Physics, mostly for historical reasons. The requirements for all tracks are similar: a total of nine course, divided between obligatory, basic and elective courses. The sub-division and list of obligatory and basic courses differ from one track to another. Six out of the nine must be taken in the first year of studies. The "basic" courses can be selected from a short list according the student's field of research, or according to his interests. Several of the students commented that very often students choose part of their basic and elective courses outside of their research fields to gain a broader education. One of the great advantages of the FGS is the exceptionally low 2:1 student:teacher ratio, making the teaching more individual.

Alongside of the two-stage M.Sc-Ph.D. track there exist a direct-Ph.D. track, where a student may submit in his second M.Sc. year a request to be moved to the direct Ph.D. track. With this request, the student submits a research plan for the Ph.D. If accepted, he is moved to the status of a second-year Ph.D. student, and his proposal may, or may not, be recognized as a M.Sc. Thesis. In spite of the significant increase in salary, most students prefer to remain in the two-stage track. No Physics students transferred to this track in 2005, and only 25% of the students transferred in 2006 (see below). The FGS and the Faculty of Physics are actively promoting this track, aiming to increase the percentage to close to 100% within the next five years.

The sub-programs seem to differ greatly in their attractiveness. Physics is the largest program, while Biological Physics, which is also the most recent program of the three, has the smallest number of students, and has, indeed, declined in its number of students since it was first opened. Part of the problem may be that the curriculum is less well organized than those of the other two sub-programs. One of the problems seems to be the lack of a coherent basic course on Biology, given from a point of view of a physicist. Past attempts to teach such a course by a biologist have largely failed, presumably due to the different teaching practices and culture in Physics and Biology. We have been told that the construction of a more coherent basic biology course is currently under way. It seems to us that an evaluation of the need for this sub-program, perhaps

within a broader re-consideration of the M.Sc. tracks as a whole (do these three particular tracks suit best the present needs of the Faculty ? do they provide the best choice of directions in current Physics ?) may be beneficial to the goals of the Faculty of Physics and the FGS.

III.3 **The courses**

The central courses are usually built in three levels: basic, advanced and special topics, each level being a separate semesterial course. For example: Quantum Mechanics I (obligatory in all three sub-programs), Quantum Mechanics II (obligatory in Physics only) and Quantum Field Theory (listed as Basic). However, not all courses are available in both semesters of a given year. It is therefore not always possible to take courses efficiently, particularly those which are obligatory. For example, in the list of courses for 2006 both QM I and QM II are given only in the first semester, and both Solid State Physics I and II ("Basic" courses) are given in parallel in the second semester only. This inhibits at the least, if not outright prohibits, the student's ability of completing the study of the obligatory courses within the first year of his M.Sc. studies. While this may be intentional, to spread the "heavier" courses over the two years of study, it also limits seriously the flexibility in the choice of courses to be taken within the rather short two-year period on the M.Sc. program.

All courses in the Physics program are taught by physicists (although some of them are members of other faculties). This is viewed, in general, as a positive practice even though it may require the lecturers to invest more work in preparing courses, particularly in those where the subject-matter is somewhat more remote from traditional Physics (as discussed above for the Biological Physics track).

The lack of an experimental course in the first year of the M.Sc. programs has been pointed out by both faculty and students to be seriously detrimental to the program. The current "rotation" program (where students join two research labs, one at a time, and participate in their activities for a limited period of a few months each) is considered by all to be inadequate, since the level of student participation in the research at the different research laboratories varies greatly. The Dean of Physics pointed out that while, in general, the level of preparedness of the students entering the M.Sc. program in Physics is satisfactory in theoretical Physics, it is much less so in experimental Physics. This renders the need for a high-level teaching laboratory dedicated to experimental physics even more acute. We have been told that such a dedicated laboratory is now being put together, and will be used for an obligatory first-year course in experimental physics. We strongly urge the Faculty authorities to complete this laboratory, and put the experimental course into operation, as soon as possible.

III.4 **The Ph.D. program**

The program requires studying 3 courses at the student's choice. The major part of this program consists of the Ph.D. thesis research project. This is supervised by the FGS and by a Ph.D. studies committee specific to each student. The progress is monitored via three reports submitted by the student at various stages of his studies.

III.5 **Issues brought up by students**

- The number and variety of elective courses is insufficient. This is assignable to the fact that teaching at FGS is voluntary, to the small size of the students' body, and to the FGS-imposed minimal class size of 5 students. Granting recognition for relevant courses taken in other institutions of higher learning may provide a partial solution to this problem. Claims of insufficient breadth of the subject covered in specific courses at the FGS were also expressed, though these were only few and may not reflect a true problem.

- The level of interest of the faculty members (Prof. Levitt excepted) in the Physics program at the FGS was generally deemed by the students to be rather low.

- Complaints about excessively long exams, and exercises requiring "reading half a book just to answer one question" were also raised. Nevertheless, most complainers acknowledged that these long exercises taught them more then most course lectures in other fields.

- The students pointed out that they greatly appreciate the encouragement and support they receive for participating in conferences and meetings. Most of them have used every opportunity to do so, and there was a general consensus that they have learnt a lot from participations in such meetings.

- Several students expressed the opinion that the two-stage track, a M.Sc. followed by a Ph.D., is preferable to the direct Ph.D. track. It allows them to choose more carefully their future field of research. In a non-negligible number of cases students changed advisors, fields of research, and even Faculties, between the M.Sc. and Ph.D. studies. This opinion meshes well with the report of the FGS about the sluggish increase in the number of students taking the direct-Ph.D. track as compared with those taking the two-

stage track, in spite of the better financial conditions in the former program, and the vigorous promotion of the direct-Ph.D. track by both FGS and the Faculty of Physics.

IV. **The Impact of Research on the Physics graduate program**

The Faculty of Physics considers the formal studies at the FGS to be an important, though not dominant, ingredient of the Advanced Degree studies. The research ingredient in both the M.Sc. and Ph.D. programs is of course at the core of the research done within the Faculty. The research done within the faculty is also reflected in the "basic" and "elective" courses offered at the FGS. The courses are taught by researchers working in the fields of the various courses, which should provide, in principle, for a constant updating of the course material, particularly in the advanced courses. Thus, it seems that there is a good synergy between research done in the Faculty and the teaching at the Physics programs in the FGS.

V. **Conclusion**

Overall, the FGS Physics programs are well-geared to fulfill their goals. However, several aspects need attention. An enhancement of the experimental component of the program is strongly recommended, and, to our understanding, is already being implemented. The possibility of restructuring the present three-track program by adding or removing one or more tracks should also be considered. Inter-course streamlining, by minimizing overlaps and possible gaps in the coverage between related courses, could also be improved. Thought should be also given to unconventional means for expanding the number and variety of WIS researchers participating in the FGS Physics program. Similar means may also be required to attract significantly more students to the direct Ph.D. track, a declared aim of the FGS.

Finally, the general satisfaction of the students with the accessibility of the faculty members and with the general level and scope of the studies at FGS has been noted with satisfaction by the visiting Committee.

Signed By:

Prof. Hanoch Gutfreund
Chairman
On behalf of the committee

APPENDICES

APPENDIX 1

Terms of Reference of the Committee

COUNCIL FOR HIGHER EDUCATION
המועצה להשכלה גבוהה

18 October 2006

To:
Prof. Hanoch Gutfreund - The Racah Institute of Physics, the Hebrew University
Prof. Daniel Ashery - School of Physics and Astronomy, Tel Aviv University
Prof. Moshe Deutsch - Department of Physics, Bar Ilan University
Prof. James Langer - Department of Physics, University of California Santa Barbara, U.S.A.
Prof. Stephen Lipson- Faculty of Physics, the Technion, Haifa
Esteemed Gentlemen,

I hereby appoint you as members of the Council for Higher Education's (CHE) Committee for the Evaluation of Physics Studies within institutions of higher education in Israel.

You are kindly requested to operate in accordance with the Appendix to the Terms of Reference of Evaluation Committees (study-programs), which is attached to this Terms of Reference document.

The Committee is requested within the framework of its activity to:
1. Examine the self-evaluation reports which shall be submitted by the institutions that provide study-programs in Physics, and hold on-site visits to those institutions.
2. Present the CHE- by January 2007- with final reports regarding the evaluated academic units and study-programs- a separate report for each institution including the Committee's findings and recommendations, together with the institutions' responses to the reports.

Within the framework of the final reports, the Committee is requested to refer to the following topics, among others, in relation to each of the study-programs:
1. The goals and aims of the evaluated academic unit and study-programs.
2. The study-program and its standard.
3. The academic staff.
4. The students.
5. The organizational structure — both academic and administrative - of the academic unit and study-program.
6. The broad organizational structure (school/faculty) in which the academic unit and the study-program operate.
7. Physical and administrative infrastructure available to the study-program.
8. Internal mechanisms for quality assessment
9. Conclusions of the academic unit and the study-program.
10. Other topics to be decided upon by the Evaluation Committee.

In addition to its final reports concerning each study program under examination, the committee shall submit to the CHE the following documents:

1. A report regarding Physics Studies within the Israeli system of higher education.
2. A proposal concerning standards for Physics Studies.

Professor Hanoch Gutfreund shall preside over the Committee as Chairman.
Ms. Einav Broitman shall coordinate the Committee's activities.

Yours sincerely,

Yuli Tamir
Minister of Education
Chairperson of the Council for Higher Education

cc: Ms. Riki Mendelzvaig, Secretary of the Council for Higher Education
Ms. Michal Neumann, in charge of the Quality Assessment Unit
Ms. Einav Broitman, coordinator of the committee

Enclosure:
Appendix to the Terms of Reference of Evaluation Committees (study-programs).

November 2005

Appendix to the Terms of Reference of Evaluation Committees (Study-Programs)

1. General

On June 3, 2003 the Council for Higher Education (CHE) decided to establish a system for quality assessment and assurance in Israeli higher education. Within this framework, study-programs are to be evaluated once in six years and institutions once in eight years. The quality assessment system came into effect in the academic year of 2004-2005.

The objectives of the quality assessment activity are:

- To enhance the quality of higher education in Israel;
- To create an awareness within institutions of higher education in Israel of the importance of this subject and to develop internal mechanisms for the evaluation of academic quality on a regular basis;
- To provide the public with information regarding the quality of study programs in institutions of higher education throughout Israel;
- To ensure the continued integration of the Israeli system of higher education in the international academic arena.

It is not the CHE's intention to rank the institutions of higher education according to the results of the quality assessment activity. The evaluation committee is requested not to make comparisons between the institutions.

2. The Evaluation Committee

2.1 The CHE shall appoint a Committee to carry out quality assessment of the study-programs.

2.2 A senior academic figure in the examined field shall be appointed as Chairman.

2.3 The Committee shall include 3 to 5 senior academic figures in the field from leading institutions in Israel and abroad. In exceptional cases, and in cooperation with the committee chairman, an authoritative figure who is not on the academic staff of an institution of higher education may be appointed as a committee member.

2.4 In the event that a member of the committee is also a faculty member in an institution being evaluated, he will not take part in discussions regarding that institution.

3. The work of the Evaluation Committee

3.1 The Committee shall hold meetings, as needed, before visiting the institution, in order to evaluate the material received.

3.2 The committee shall visit the institution and the academic unit being evaluated within 3-4 months of receiving the self-evaluation report. The purpose of the visit is to verify and update the information submitted in the self-study report, clarify matters where necessary, inspect the educational environment and facilities first hand, etc. During the visit the committee will meet with the heads of the

institution, faculty members, students, the administrative staff, and any other persons it considers necessary.

3.3 In a meeting at the beginning of the visit, the committee will meet with the heads of the institution (president/rector, dean), the head of the academic unit and the study-programs, in order to explain the purpose of the visit. At the end of the visit, the committee will summarize its findings, and formulate its recommendations.

3.4 The duration of the visits will be coordinated with the Chairman of the Committee according to the issue, and in any event will not be less than one day.

3.5 Following the visit, the committee will write its final report, including its recommendations, which will be delivered to the institution and the academic unit for their response. The institution's and the academic unit's response will not result in changes to the content of the Committee's report, unless they point out errors in the data or typographical errors in the Committee's report. In such cases, the committee will be able to make the required corrections in its final report.

4. The Evaluation Committee's Report

4.1 The final report of the evaluation committee shall address every institution separately.

4.2 The final report shall include recommendations on the subjects listed in the guidelines for self-evaluation, and in accordance with the Committee's Terms of Reference.

4.3 The recommendations can be classed as one of the five following alternatives:

4.3.1 ***Congratulatory remarks and minimal changes recommended, if any.***

4.3.2 ***Desirable changes recommended*** at the institution's convenience and follow-up in the next cycle of evaluation.

4.3.3 ***Important/needed changes requested for ensuring appropriate academic quality*** within a reasonable time, in coordination with the institution (1-3 years).

4.3.4 ***Essential and urgent changes required, on which continued authorization will be contingent*** (immediately or up to one year).

4.3.5 ***A combination of any of the above.***

4.4 The committee's report shall include the following:

4.4.1 **Part A — General background and an executive summary:**

4.4.1.1 General background concerning the evaluation process, the names of the members of the committee, a general description of the institution and the academic unit being assessed, and the committee's work.

4.4.1.2 An executive summary which will include a description of the strengths and weaknesses of the academic unit and program being evaluated, according to the subjects listed in the body of the report and a list of recommendations for action.

4.4.2 **Part B — In depth description of subjects examined:**

4.4.2.1 This part will be composed according to the topics examined by the evaluation committee, in accordance with the committee's Terms of Reference and the report submitted by the institution, and at the discretion of the committee.

4.4.2.2 For each topic examined - the report will present a summary of the findings, the relevant information and an analysis thereof, and conclusions and recommended actions.

4.4.3 **Part C — Summary and recommendations:**

4.4.3.1 A short summary of every one of the topics described in detail in Part B, including the committee's recommendations.

4.4.3.2 Comprehensive conclusion/s and recommendation/s regarding the evaluated academic unit and the study-programs.

4.4.4 **Part D- Appendices:**

The appendices shall contain the committee's Terms of Reference, relevant information about the institution and the evaluated academic unit, the schedule of the on-site visit.

4.5 The final report will be delivered to the institution, with the deadline for its and the academic unit's response noted.

4.6 The Committee's final report together with the response of the institution and the academic unit will be brought before the CHE.

4.7 The CHE will discuss these documents and formulate its decisions within (approximately) a year from the time the guidelines for self-evaluation were sent to the institutions.

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APPENDIX 2

The schedule of the visit

Weizmann Institute of Science

Schedule for November 22, 2006

Time	Location	Participants
09:30-10:00	Office of the VP Stone Building	**Opening Session** ▪ Members of the committee ▪ Prof. Haim Garty, VP Weizamann Institute of Science ▪ Prof. Yosef Yarden, Dean, Feinberg Graduate School ▪ Dr. Ami Shalit, Director, Feinberg Graduate School [and Coordinator of Quality Assessment]
10:00-10:15	De-Shalit Room Weissman Building	Transfer to the Faculty of Physics (Weissman Buliding)
10:15-11:15	Weissman Building	**General Overview** ▪ Members of the Committee ▪ Prof. Yaron Silberberg, Dean, Faculty of Physics ▪ Prof. Shimon Levit, Chair, Board of Studies in Physics
11:15-12:45	De-Shalit Room Weissman Building	**Tour of the Physics Research Facilities (including meeting students in the Research Laboratories)** ▪ Members of the Committee ▪ Prof. Yaron Silberberg.
12:45-13:45		**Lunch** ▪ Members of the Committee
13:45-15:00		**Meetings with Faculty members who will express their will to meet with the Committee prior to the visit** ▪ Members of the Committee
15:00-16:00		**Meeting with M.Sc. Students (5 students)** ▪ Members of the Committee
16:00-17:00		**Meeting with Ph.D. Students and Postdoctoral Fellows (5 students/Fellows)** ▪ Members of the Committee
17:00-17:45		**Summation** ▪ Members of the Committee ▪ Prof. Yosef Yarden, Dean, Feinberg Graduate School ▪ Prof. Yaron Silberberg, Dean, Faculty of Physics ▪ Prof. Shimon Levit, Chair, Board of Studies in Physics ▪ Dr. Ami Shalit, Director, Feinberg Graduate School [and Coordinator of Quality Assessment]