

**THE WINNERS WHO WILL ESTABLISH THREE OF THE FIRST FOUR CENTERS
OF EXCELLENCE - I-CORE HAVE BEEN SELECTED**

The Minister of Education and Chairman of the Council for Higher Education, **Gideon Sa'ar**, and the Chairman of the Planning and Budgeting Committee, **Prof. Manuel Trajtenberg**, announced today the groups that have been selected to establish three of the first four Centers of Excellence:

- In the field of "**the molecular basis of human diseases**", the winner is a group led by **Prof. Howard Cedar of the Hebrew University of Jerusalem** with the participation of researchers from the Hebrew University of Jerusalem, Tel-Aviv University, Bar-Ilan University, the Sheba Medical Center and the Hadassah Medical Center.
- In the field of "**cognitive processes**", the winner is a group led by **Prof. Yadin Dudai of the Weizmann Institute of Science**, with the participation of researchers from the Weizmann Institute of Science, Tel-Aviv University, Bar-Ilan University, the Max Stern Academic College of Emek Yezreel, and the Tel-Aviv Sourasky Medical Center.
- In the field of "**computer sciences**" the winner is a group led by **Prof. Yishay Mansour of Tel-Aviv University**, with the participation of researchers from Tel-Aviv University, the Weizmann Institute of Science and the Hebrew University of Jerusalem.

In the field of "alternative energy sources", a decision will be made and announced soon.

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The Minister of Education and Chairman of the CHE Gideon Sa'ar: "The selection of the first winners in the program for Centers of Excellence is a landmark in the move to reinforce Israel's leading standing in the world of advanced research. The Government of Israel's decision of March 2010 is being implemented. During the coming year, ten additional Centers of Excellence will be established, including some in the humanities and social sciences."

Professor Manuel Trajtenberg, Chairman of the PBC: "As part of the national program to establish Centers of Excellence, 300 leading Israeli researchers are expected to return to Israel from the best universities in the world. In the coming weeks we will announce the fields for the next wave of Centers of Excellence, to be selected through a process in which the entire academic community is taking part. The establishment of the Centers of Excellence is a central component in the multi-year plan for higher education - to strengthen scientific research in Israel and consolidate her position as a leader in world science."

Professor Benny Geiger, Chair of the Academic Board of the Israel Science Foundation, a partner in leading the Centers of Excellence Program: "All the proposals to establish the first Centers that were submitted reflect well the scientific strength of the State of Israel, and they were highly regarded by the international review committees that examined them. Even those that were not selected were very worthy proposals, and they should be encouraged."

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The Centers of Excellence Initiative - Background

The initiative for **I-CORE: Israeli Centers of Research Excellence** was drawn up during the past year as part of the multi-year plan for the higher education system, and was presented to the Government by Minister **Sa'ar** and Prof. **Trajtenberg**, and adopted by it at its meeting on **March 14, 2010**.

The project entails the gradual establishment of up to **30** centers of excellence during the next five years, each one in a different field of research - in the natural sciences, the humanities and the social sciences. The over-all sum of **NIS 1.35 billion** will be made available for the establishment and operation of the Centers of Excellence (financed equally by the Planning and Budgeting Committee, strategic partners, and the institutions involved). Each center will bring together a critical mass of leading researchers in the field - staff members at different institutions (universities, colleges, hospitals and research institutes), as well as new Israeli researchers in the field, some of them returning from abroad ("Brain Return"), who will join one of the institutions and the Center of Excellence.

The Centers of Excellence will promote comprehensive, ground-breaking and innovative research in their fields and will serve as anchors for scientific infrastructure and the effective collaboration of leading researchers in the field from different institutions. The Centers will provide incentives and will promote, each in its own field, the highest quality research activity in the State of Israel and will be a central factor in strengthening and realizing scientific potential in these fields. The Centers will provide new researchers with special improved research support, including, among other benefits, a research grant of hundreds of thousands of NIS for five years (depending on the nature of the field) and an initial absorption grant to purchase research equipment and set up a laboratory.

A steering committee composed of **11** members, who faithfully represent the academic spectrum, coordinates the program. The committee is headed by PBC member **Prof. Shimon Yankielowicz** of Tel-Aviv University. **Dr. Liat Maoz** directs the program on behalf of the PBC.

The Israel Science Foundation, led by **Prof. Benjamin Geiger** of the Weizmann Institute of Science, the Academic Chair of the ISF Academic Board, and **Dr. Tamar Jaffa-Mittwoch**, Director-General of the ISF, is responsible for the review process and the operation and scientific oversight of the Centers. An International Scientific Advisory Committee, composed of members who are among the leading scientists in the world in various fields, including Nobel prize winners, advises the program.

The First Four Centers of Excellence

In **July 2010**, the I-CORE steering committee announced the first four fields in which Centers of Excellence will be established:

1. Systems-level analysis of the molecular basis for human diseases: from genomics to personalized therapy;
2. Advanced approaches in cognitive sciences;
3. Advanced topics in computer sciences;
4. Renewable, sustainable, and alternative sources of energy

In **September 2010** preliminary proposals to set up each center were submitted, and in December the full proposals were submitted. **Nine** full proposals in total were submitted for the four centers, involving seven research universities, three colleges

and three hospitals from throughout Israel. The names of **60** Israeli researchers from the best universities and research centers abroad, who are all willing to come to Israel to take part in the centers, appear in the full proposals.

The Winners

1. For the Center of Excellence in the field of "**the molecular basis of human diseases**", the winner is a group led by **Prof. Howard Cedar of the Hebrew University of Jerusalem**. 19 veteran researchers from the Hebrew University of Jerusalem, Tel-Aviv University, Bar-Ilan University, the Sheba Medical Center and the Hadassah Medical Center are part of this group and, already during the first year of operation, the Center will absorb at least **four new additional researchers**, returning to Israel from the Broad Institute in Massachusetts, the Harvard Medical School, and from Children's Hospital in Boston. The Center will engage in the study of genetic regulation of complex human diseases.

2. For the Center of Excellence in the field of **cognition**, the winner is a group led by **Prof. Yadin Dudai of the Weizmann Institute of Science**. 24 veteran researchers from the Weizmann Institute of Science, Tel-Aviv University, Bar-Ilan University, the Max Stern Academic College of Emek Yezreel, and the Tel-Aviv Sourasky Medical Center. are part of this group and, already during the first year of operation, the Center will absorb at least **three new additional researchers**, returning to Israel from UCLA, Harvard Medical School, Massachusetts General Hospital and Stanford University. The Center will engage in the study of retrieved understanding: from conceptualized to remembered and back.

3. For the Center of Excellence in the field of **computer sciences**, the winner is a group led by **Prof. Yishay Mansour of Tel-Aviv University**. 24 veteran researchers from Tel-Aviv University, the Weizmann Institute of Science and the Hebrew University of Jerusalem are part of this group and, already during the first year of operation, the Center will absorb at least **four new additional researchers**, returning to Israel from the Microsoft Research Laboratories in New England, Columbia University, Yale University, the University of California at Berkeley, and the MIT. The Center will engage in the study of algorithms.

A decision regarding the winning group in the field of "alternative energy sources" will be made shortly.

The Review Process

The process of reviewing and evaluating the proposals that were submitted was administered and coordinated by the Israel Science Foundation and carried out by four international peer-review committees, one for each field.

According to **Prof. Benjamin Geiger**, the heads of the peer-review committees and the members of the committees are all world-renowned researchers from abroad, who were selected after a careful assessment of their academic standing, their experience in managing peer-review and evaluation committees and their in-depth familiarity with the different relevant aspects of the submitted proposals, while ensuring that there are no conflicts of interest between the chairmen and members of the peer-review committees and the applicants.

The peer-review committees held detailed discussions on the quality of the proposals, including their various components, and related to the strengths and weaknesses of each proposal, as well as to its suitability to the aims of I-CORE. Committee members stressed that all of the proposals submitted expressed scientific excellence and great potential to promote scientific research in Israel and to help "the return of brains" to Israel: the competition between the proposals was difficult. Furthermore, they conveyed their great appreciation of the I-CORE program and its expected contribution to research and to the higher education system in Israel.

The chairman of the review committee for the field of the molecular basis of human diseases was Prof. Eric S. Lander, who is on the faculty of MIT and Harvard Medical School, and the founder and director of the **Broad Institute** - a world leader in research in genomic biology. Prof. Lander was one of the chief researchers in the human genome project and today serves as head of U.S. President Barack Obama's Council of Advisors on Science and Technology.

The chairman of the review committee for the field of cognition was Prof. Richard Shiffrin of Indiana University, who developed basic theories of cognition in the areas of memory retrieval and the interaction of automatic and attentive cognitive

processes. Prof. Shiffrin is a member of the US National Academy of Sciences and the American Academy of Arts and Sciences and was awarded the Warren Medal and the Rumelhart Prize for his work in the field of cognition.

The chairman of the review committee for the field of computer sciences was Prof. David P. Dobkin, Dean of the Faculty of Computer Sciences at Princeton University. His research deals with the development of theoretical models in the field of computational geometry and computer graphics. Prof. Dobkin is a member of the editorial boards of leading professional journals in the field, chaired the governing board of the Geometry Center at the University of Minnesota, and was a member of the board of directors of the DIMACS research center, founded by the NSF.

Dr. Tamar Yaffa-Mittwoch stated that the peer-review process was based on a combination of a professional opinion and grades for various aspects of a proposal, awarded by each member of the review committee in his own field, and internal discussions among members of the review committee in order to prepare an unambiguous recommendation on the winning proposal.

Recommendations of the peer-review committees were presented to the I-CORE steering committee, which discussed and approved them.

The Continuation of the Program

The I-CORE steering committee is currently working on the selection of topics for the next wave of Centers of Excellence, which will include an additional 10 centers.

On January 20, 2011 the steering committee published a wide-spread call for proposals of fields for the next round of centers of excellence. Any group of at least three Israeli researchers from Israel or from abroad, at least one of whom is a senior academic staff member at an Israeli institution of higher education, is allowed to propose topics. In addition, the heads of the institutions of higher education were invited to propose topics that indicate their institutional priorities.

Dr. Liat Maoz, director of the I-CORE program at the PBC related that the guiding principle is the creation of a process involving wide-scale collaboration with the

academic community, so that the topics selected will accurately reflect the priorities and scientific interests of researchers in Israel.

The submission of topics concluded at the end of February: about 150 proposals for topics were submitted by over 1,200 researchers from more than 40 institutions in Israel and 30 more institutions abroad. The topics covered a wide variety of subjects in the life sciences, medicine, exact sciences, engineering, social sciences, education, law, management and the humanities. Broad interdisciplinary collaborations of researchers from different institutions were particularly evident.

According to Prof. Yankielowicz, four disciplinary sub-teams, in the fields of: life sciences and medicine; exact sciences and engineering; social sciences, education, law and management; and the humanities, were set up by the I-CORE steering committee for the specific purpose of selecting the topics for the next round of centers. Each sub-team is headed by a member of the steering committee and the members of the teams are senior academics in the relevant fields in Israel. In their work, the teams were aided by the proposals submitted by the academic community, and they recently presented preliminary recommendations to the steering committee. In coming weeks, the steering committee will decide on the final list of subjects for the next Centers of Excellence.

Furthermore, during the coming months the steering committee will deliberate on changes and adjustments to the method of operating the centers in the next phase of the I-CORE program, based on the experience gained during the selection of the first four Centers of Excellence. Calls for Proposals for establishing the new Centers of Excellence will be published after the steering committee formulates its decision.