

# **Max Wertheimer MINERVA Center for Cognitive Processes and Human Performance**

## **Report of the Sixth Advisory Council Meeting Haifa, February 12 – 14, 2006**

The Sixth Advisory Council Meeting started on Sunday, February 12, 2006, with a scientific colloquium at the Technion in which the principal investigators (PIs) located at the Technion presented their work. A second and in the format equivalent symposium was held on Monday, February 13, 2006 at the University of Haifa in which the PIs of this part of the Center presented their work. Both symposia were supplemented by lab visits and discussions with the graduate students supported by the Center. The Council's formal meeting took place on Tuesday morning, February 14, 2006. All members of the council, i.e.

**Yaakov Kareev** (School of Education, Hebrew University of Jerusalem)

**Dietrich Manzey** (Institute of Psychology and Ergonomics, Berlin University of Technology).

**Arie Melnik** (Dep. of Economics, University of Haifa)

**Hillel Pratt** (Dep. of Behavioral Biology, Technion)

**Frank Rösler** (Dep. of Psychology, Philipps-University, Marburg)

**Pienie Zwitserlood** (Institute of Psychology, University of Münster)

participated in the symposia, the lab visits, and the formal meeting.

This report is based on the Center's Report of Activities 10/2003 – 09/2005, including the fiscal report and the budget proposals. On the basis of this information as well as on extensive discussions with all principal investigators (Prof. Ido Erev, Dr. Morris Goldsmith, Prof. Ruth Kimchi, Prof. Joel Norman) and the two directors of the Center (Prof. Asher Koriat, Prof. Daniel Gopher), the Council agreed on the following conclusions.

### **1.**

As in the years before, the scientific work at the Max Wertheimer Minerva Center is excellent and contributes to many facets of basic and applied research in Cognition and Human Performance. The Council shares the opinion that the Center is a major international player in these areas of research.

This is well documented by the report which lists a large number of conference contributions and of full papers in highly prestigious international journals. The impressive success of the Center is further documented by the large number of additional funds that could be acquired from other sources and which prove the high standards and international appreciation of the research carried out in the Center. The Council was very enthusiastic about the international standing of the Center and how the funds allocated to the Center are used in a most efficient and appropriate way.

As outlined in the report of the Center 10 topics are currently pursued. Some of these are projects guided by one PI, others are joint projects guided by two PIs of the Minerva Center. All projects incorporate younger scientists as active members which make substantial contributions and which act also as first authors in some of the already finished and further planned publications. The topics, principal investigators and affiliations of the projects are:

- *Monitoring and control processes in learning and memory* (PIs: Prof. Asher Koriat, Dr. Morris Goldsmith, Haifa University)
- *Structural precedence in reading* (PIs: Prof. Asher Koriat, Haifa University, Monika Nißlein, Jochen Müsseler, Univ. of Aachen, Germany)
- *Basic processes in human perceptual organization – microgenesis and ontogenesis* (PI: Prof. Ruth Kimchi, Haifa University)
- *The implications of the two visual systems concept to perception and action* (PI Prof. Joel Norman, Haifa University)
- *Inter- and intra-modal perception of congruity* (PIs: Dr. Yaron Alima, Prof. Ruth Kimchi, Prof. Joel Norman)
- *The control of visual attention to objects and space: A dynamic interactive framework* (PIs: Dr. Morris Goldsmith, Dr. Meni Yeari, Haifa University)
- *Control processes in human processing and response* (Prof. Daniel Gopher, Technion)
- *Training and learning based on the development of cognitive strategies* (Prof. Daniel Gopher, Prof Ido Erev, Technion)
- *The psychology of small decisions* (Prof. Ido Erev, Technion)
- *Using cognitive models to map relations between neuropsychological disorders and human decision making* (PI: Prof. Ido Erev, Dr. Eldad Yechiam)

The last project mentioned has been added during the last two years, because Dr. Yechiam, a former graduate student supported by Minerva funds, has now rejoined the Technion after his post-doctoral training at the University of Indiana. His approach adds a new facet to the Center's research profile. It combines formal models of decision making and neuroscience methodology to map neural networks functionally relevant for decision making.

The written report and the presentations of the PIs showed impressively that these projects are well under way, that a number of new experiments has been completed during the last two years, that results are continuously published and presented at conferences, and finally, that a number of plans exists for future developments.

The subcenter at Haifa University concentrates on perception and memory, with an emphasis on basic over applied research. Conversely, the subcenter at the Technion focuses on information processing and decision making, with an emphasis on theoretically guided applied research. In a way, then, in this unique Max Wertheimer Center, the Minerva Foundation gets two influential centers, one at the University of Haifa and one at the Technion instead of one. Though they are different in profile, they are both excellent by any scientific criteria. They both have a clear focus on basic aspects of human cognition and performance which is now also extended into the domain of neuroscience.

The Council was pleased to see that a more intensive interaction between the two subcenters has been institutionalized by joint *University of Haifa – Technion Minerva workshops, seminars*, and a series of *Minerva lectures*. The Council considered possibilities to further increase the interaction between the graduate students who are involved in distinct projects. One option could be that the Center organizes an annual “student retreat” somewhere outside of Haifa, where the students report about their projects and the progress made. This could give rise to informal interactions and could eventually lead to common projects in the future. It could also be considered that such a retreat will once be combined with a meeting of the Advisory Council.

## 2.

As on previous visits, the Council noted that there is an excellent research atmosphere in both places. We found students and post-docs enthusiastic about their work and competent in both defending their work against criticism and still taking up suggestions for further improvement. In both places there appears to be an open and intellectually stimulating atmosphere, providing ideal training opportunities for young students. The Council concluded that the Max Wertheimer Center is a first-rate place not only for research, but also for educating young people in this endeavor. The researchers of the Center understand part of their mission as to providing an optimal basis for educating students in their masters and graduate phase as well as to give young scientists additional training in their post-doc phase. The researchers also think that for this achievement it is an advantage that the Center does not focus on a narrow topic of research, as it might be the case in other Minerva Centers, but rather that a broader perspective of both basic and applied research topics can be offered to the students and young scientists.

### 3.

The Advisory Council was pleased with the format in which the overview of research activities was given in both written report and oral presentations and it was impressed by the high and professional standard of the presentations, the in-depth knowledge of the young scientists and the students which participated in the discussions and in the lab presentations.

For the next meeting it is suggested that the presentations of the young scientists should get a stronger weight. In particular, the council members would appreciate very much, if there were more time for in-depth discussions of particular projects. This could possibly increase the input of the council members.

With respect to the format of the report it was also suggested by members of the Council that each research topic should not only be presented by the most recent achievements but that also kind of more general “advance organizers” should be added such that the general framework and perspectives of the project program become more transparent.

### 4.

In both places lab space is available for (and explicitly dedicated to) Minerva-sponsored research activities. Nevertheless, the Council had the impression that the situation could be improved at both sites, at Haifa University and at the Technion, in that more lab space and possibly also more modern information technology equipment and furniture should be provided for the student offices.

The Advisor Council agrees with the directors that the Center, which now exists for ten years, will need to replace part of its computer and experimental equipment to meet up-to-date standards. Therefore, it would be most welcome, if extra funds were available from Minerva or the two housing institutions – University of Haifa and Technion - to satisfy these equipment needs.

### 5.

As in previous years, Minerva funds are used in two ways: for direct support of ongoing projects (with a strong component of financing PhD students) and for seed money for preliminary work on projects for which additional money is attracted. As the reports show, the Center was highly successful in acquiring additional grant money to continue research which was originally started on the basis of Minerva funds but which is now pursued on a larger scale. Among others the Center was able to win a DIP grant for research on metacognition which will also intensify the cooperation between members of the Center and partners in Germany. Other grant applications were successful at the Israel Science Foundation, the US-Israel Bi-national Foundation, and the European Commission 5<sup>th</sup> Program. Moreover, the Center was very ambitious in continuing these grant proposal activities,

among others to receive money for multinational projects funded by the 6<sup>th</sup> European Commission Research Program. These resources have allowed to enlarge the groups of graduate students and post-docs. As a consequence, both places have clearly reached, and exceeded, the critical minimum of mass for productive scientific interaction.

## **6.**

The Center has continued contact with German institutions and research partners. The DIP grant involves cooperation with five PIs in Germany located at 4 places (Mannheim, Heidelberg, Würzburg, and Erfurt). Another submitted grant proposal for a GIF project will start, if successful, collaborative work between the Center and the Psychological Department of the University of Potsdam. Moreover there were several visits of Center members in Germany.

## **7.**

On the previous meeting of the Council in 2004 the researchers of the Minerva Center had agreed to plan a winter school which should be open for graduate students from both Israel and Germany. The school shall focus on one of the topics pursued by the Center. Members of the Center as well as additional researchers from Israel and Germany shall be recruited as teaching staff and the school shall be advertised in both countries. It is expected that this enterprise will not only intensify the contact between young scientists from both nations. It will also increase the visibility of the Center which goes beyond the normal way as it can be achieved by publications and conference presentations. The winter school should advertise the message that the Max Wertheimer Center is an excellent and outstanding place for research in basic and applied cognitive science. The acting Council showed great appreciation for this plan and reinforced the directors of the Center to realize it in the near future.

## **8.**

The Council and the researchers of the Center understand that an exchange of graduate students from Israel with German labs is not easy to achieve. However, as many labs in Germany went international in the meantime, i.e. they all publish in English, it should no longer be a problem for Israeli students to join a German group for some time. It will no longer be necessary to study German for such a short or medium term visit because the communication can go on in English. The principal investigators at the Max Wertheimer Center will continue their efforts to extend research contacts with Germany. The Council was pleased to learn that the Center's activities have been made more visible by updating and extending the web page of the Center and by preparing a special brochure which highlights the Center's activities.

## 9.

Given the Center's excellent condition, the Council concluded that its next meeting at Haifa should be scheduled for spring 2008, preferably the second half of February. The Advisory Council and the members of the Center agreed that a full report will be provided by the beginning of 2008 just before the next site visit of the Council.

## 10.

The Advisory Council took the following formal decisions:

- The Report of Activities 1/10/2003 – 30/09/2005 is fully approved (for evaluation of scientific activities, see above).
- The Fiscal Report for the period 1/10/2004 – 30/09/2005 is fully approved (pp. 70, 71 of the report).
- The Budget Proposal for 2005-2006 is fully approved (pp. 72, 73 of the report).
- The upcoming fiscal report 1/10/2005 – 30/9/2006 and the budget proposal 2006-2007 shall be approved on a written basis in due time.

These decisions were taken in accordance with all Council members who participated in the Council meeting.

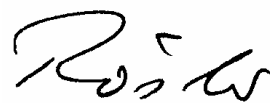
## 11.

Prof. Rösler's membership in the council cannot be prolonged any further due to the by-laws of Minerva. Accordingly, he resigned as chairman of the advisory council. He expressed his thanks to the currently acting Beirat members for their support and the excellent working atmosphere. The Beirat members thanked Prof. Rösler for his leadership and dedication to the center and expressed their hopes that he will stay in touch with its activities.

The Advisory Council agreed unanimously with one abstaining vote that Prof. Dr. Dietrich Manzey shall act as chairman of the Council until the next meeting in 2008.

## 12.

The Advisory Council gave its unanimous consent to this report.



Prof. Dr. Frank Rösler

Marburg, 15/03/06