



Research

Research Grants Approved by the Israel Science Foundation in 2003-2004

Three studies conducted by Open University faculty were supported by funding from the Israel Science Foundation this year.

■ Prof. Nurith Gertz: *Memories and Spaces in Israeli and Palestinian Cinema*

The study deals with the image of the landscape of Palestine (*Eretz-Yisrael*) and the trauma of its loss as preserved in the Jewish and the Palestinian collective memories. The memory of both groups relates to the same landscape and evolves along parallel axes so that the traumas of both groups collide and fuel one another. The researcher makes use of psychoanalytic theories of trauma, theories of historical memory and of historical memory in cinema, as well as theories of space in order to examine the ways in which historical memory is constructed in Israeli and Palestinian cinema. The research explores how memory is expressed in cinematic time and space: its dimensions and boundaries, the different ways in which it is depicted and more. This comparison illuminates the different ways in which these two cultures cope with their history and how the two histories are intertwined.

■ Dr. Sonia Roccas: *Social Identity Complexity*

The study examines the complexity of social identity – a new theoretical framework that addresses the subjective representation of the interrelationships among the various groups of which individuals are simultaneously members. When the overlap of multiple ingroups is perceived to be high, the individual maintains a relatively simplified identity structure whereby memberships in different groups converge to form a single ingroup identification. When a person acknowledges, and accepts, that membership in multiple ingroups is not fully convergent or overlapping, the associated identity structure is both more inclusive and more complex. The purpose of the research is to achieve a better understanding of the ways individuals think about their multiple group membership and to investigate some of the antecedents and consequences of highly complex representations in this domain. The study explores personality and environmental factors affecting social identity complexity and the implications of a complex identity for tolerance.

■ Dr. Yoav Yair, together with Prof. Zev Levin (Tel Aviv University) and Prof. Colin Price (Tel Aviv University): *Global and Local Observations of Transient Luminous Events using Optical Cameras, ELF and VLF Measurements and Ground-Based Lightning Location Systems*

This study, a collaborative effort of the Open University and Tel Aviv University, deals with the phenomenon of “sprites”, electrical discharges in the upper atmosphere, at heights of 50-100 km. The phenomenon is of importance to atmospheric chemistry and to understanding the global electrical circuit that connects the ionosphere to the earth. The first year of research was devoted to deciphering the observations of sprites worldwide in the *MEIDEX* campaign conducted from the space shuttle Columbia. The results of this stage of the research have already been presented at international conferences and published in professional journals.



Over the course of the year a lightning location system was acquired and installed at Tel Aviv University, and cameras, a GPS system and data processing cards were purchased. We are preparing the observation system that will monitor lightning storms in Israel in the coming fall and winter with the aim of “catching” sprites above the Mediterranean Sea and the coast. Collaborative efforts are under way with research teams in Denmark, Hungary and Japan to establish a program of simultaneous ELF and VLF observations, as well as observations coordinated with the Taiwanese ROCSAT research satellite.

A fourth study by an Open University faculty member was supported by a grant from the ISF through the Hebrew University of Jerusalem:

■ **Prof. Elchanan Ben-Porath** (The Hebrew University of Jerusalem) and **Prof. Aviad Heifetz** (The Open University of Israel): **Rationalizable Expectations**

Rational Expectations Equilibrium (REE) is the basic competitive solution concept for economies with asymmetric information. It assumes that (1) there is common knowledge that individuals are rational and learn from the market prices about the fundamental state of the economy, and that (2) there is common knowledge what market-clearing price would prevail at each state. Typically, REE predictions are implausibly strong, resulting in full aggregation of the private information of individuals. In this research we study the implications of relaxing assumption (2). Namely, we assume that there is still common knowledge that markets clear and that individuals are rational, but different individuals are entitled to hold different theories about the price function and of other people’s theories that lead to its emergence. We show how this generalized solution concept does not entail full information aggregation, and we study its properties, characterizations and foundations.

Research Grants from External Funds Approved for 2004-2005

Research grants were approved for the academic year 2004-2005 for three Open University faculty members: the Israel Science Foundation awarded grants to Dr. Anat Barnea to study “The effect of social change on neuronal recruitment, survival, and replacement in the adult brain”, and to Dr. Lilach Shalev-Mevorach to study “A multidimensional model of attention for identifying impaired attentional functions in adults with ADHD”. The American Muscular Dystrophy Association (MDA) awarded Prof. Miriam Souroujon a grant to study “Immunotherapy of experimental myasthenia gravis”.

Research Authority Activities in 2003-2004

As in previous years, the Research Authority acted to encourage research among the faculty through the collection and dissemination of information about external funding sources, assistance in applying to external sources and allocation of resources from the internal fund based on existing criteria.

A decision reached this year enables all faculty members, including those holding doctoral degrees who do not have an academic appointment, to apply for a research grant from the Research Authority. The aim of this decision is to enable faculty to engage in research. It was also decided to eliminate the grant for assistance in publishing research (no requests were submitted in this category), and to adjust the sum of a half grant for doctoral students in the experimental sciences who are junior faculty members at the Open University, to the sum of grants offered by the doctoral student's university.

The Asseo Foundation, which granted scholarships to outstanding doctoral students, unfortunately ceased its operation. So as not to reduce the number of excellence grants to doctoral students who are junior faculty members, the Steering Committee decided to fund the three current scholarships from the budget of the Research Authority.

Research Grants for 2003-2004 from the Open University Research Authority Fund

Seventy-eight requests for funding were submitted to the internal fund in 2003-2004. The Steering Committee approved 69 of the requests: 6 for the advancement of on-going research; 3 exploratory research grants; 6 research grants; 2 grants of excellence for doctoral candidates; 44 grants for continuing education research; 2 grants for book publishing; 2 grants for laboratory research; 3 requests for a partial scholarship for a student of experimental sciences; a special grant for preparing a laboratory at Tel Aviv University for research of an Open University senior faculty member (following a special request by the President).

Three studies that received grants for 2003-2004 from the internal fund are described below:

■ **Ravid Doron (research grant): The Involvement of the Arcuate Nucleus-Nucleus Accumbens Axis in the Rat Brain in the Process of Addiction to Psychoactive Drugs**

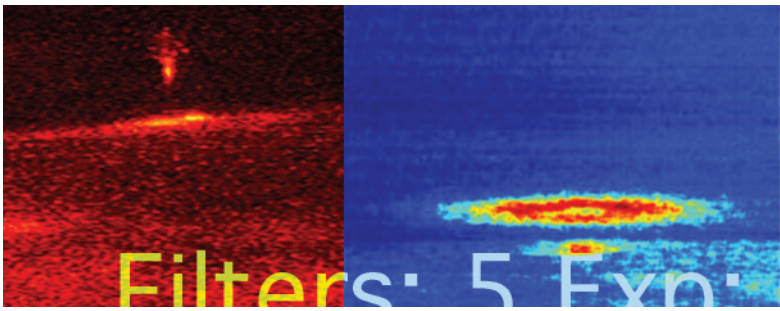
Drug abuse is defined as the need to use a drug without having control of the amount consumed. An important challenge in neurobiological research is understanding what causes the transition from drug use to drug abuse, and what molecular, cellular and systemic factors influence this change. This study focuses mainly on the systemic level and tests the communication between two regions of the brain that are important in the process of drug addiction: the nucleus accumbens and the arcuate nucleus, in an effort to understand the cerebral changes that occur at the time of exposure to cocaine. The second stage of the research will be an effort to develop prophylactic and withdrawal treatments for drug users.

■ **Yael Munk (grant of excellence for a doctoral candidate): Border Cinema: Identity and Space in Israeli Cinema in the 1990s**

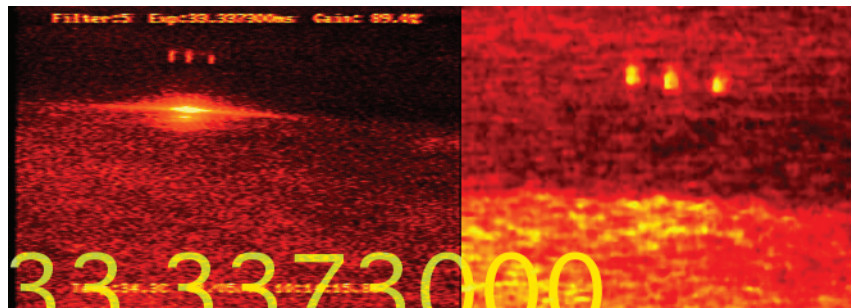
The study examines the ideological changes that took place in Israeli feature films in the 1990s and their implications on critical issues in the Zionist experience – space and identity. The research offers an alternative mapping of Israeli filmmaking during this period in terms of genre, space and topology, centering on the liminal experience, an experience identified with the post-modern and the post-colonial condition. Thus the theoretical basis of the study derives from three critical discourse fields: (1) the criticism of colonialism and the attempt to formulate the hybrid identity created after colonialism; (2) the deconstructivist theory that strives to dismantle the relationship between knowledge and power and to identify the web of interests that drive how hegemony views itself; (3) post-Zionist criticism that applies principles from these two critical approaches to a critical examination of Israeli historiography.

■ **Dr. Yael Enoch (special grant to advance on-going research): Childhood in the Shadow of the Holocaust**

The researcher interviewed Jewish and half-Jewish adults in Copenhagen who were children during the Holocaust and fled with their parents from occupied Denmark to Sweden in 1943. The interviews were conducted in Danish to make the interviewees feel more comfortable and to enable them to freely recount their childhood experiences. The interviews, which will be transcribed and translated into English, will be integrated into a monograph on the topic.



"Sprites"



The Chais Research Center for the Integration of Technology in Education

In the past year, several studies conducted at the Chais Research Center were completed, and the majority were submitted and accepted for publication.

- Teaching dialog: The study examined the theoretical model applied in several chemistry and physics courses and also compared Open University students to college students and to students at Tel Aviv University. The teaching dialog model is also examined with respect to specific technologies (e.g., InterWise).
- A pilot study on the use of video for teaching purposes was completed and several continuing studies are underway: examining students' video viewing, examining the findings of the pilot study in larger courses, as well as a study of video representation modes and their effect on comprehension and memory.
- A study that examined the selection of means of communication for teaching purposes, and how course coordinators maintain contact with students, was completed.
- A study was conducted among students in the History department that examined the relationship between learning practices and the use of online components.
- A study was conducted on the relationship between personality facets and participation in two teaching environments – the classroom and a virtual discussion group. A grant from the Research Authority will fund a further study.