

Research



OUI faculty members are engaged in research in varied fields representing diverse disciplines: Social Sciences, Humanities, Natural Sciences, Exact Sciences and Engineering.

Research Authority Activities

The research authority supports research by locating external funding sources and assisting in submitting proposals to such external funds, and provides direct support by allocating resources from the internal research fund. Next to the Research Authority, a steering committee composed of faculty members of various disciplines, supervises the academic policy of the Authority including assessment of applications for funding and allocation of funds.

Research Clusters

For the first time this year, all research carried out at the OUI has undergone thorough mapping and analysis, yielding clearly defined inter-departmental research clusters. These clusters are meant to serve as a focus of cooperative academic research among OUI researchers, as well as be of interest to foundations and bodies funding basic and applied research. To this end, the analysis was based on descriptions by researchers of their research topic and method. Eight tentative clusters emerged: Computational and formal thinking in science and behavioral science; Cognition, learning and education; Cultures, peoples and societies; State, economy and organizations; History of religions, ideologies, science and communities; Managing systems and human systems; History, philosophy, sociology and psychology of identities, emotions, morality and values; Matter, life and environment.

Database of Scientific Publications by Faculty Members

An annually updated database of all scientific publications by OUI faculty has been set up, as of 2007. Retrieval by any of the following: paper's title, author, journal, publication language or date, will indicate at any given moment the output of OUI faculty on research clusters or specific topics.

Annual Research Day

This year's annual research day at the Open University, attended by senior academic faculty members, was dedicated to research policy discussions. The main issue concerned national level research: should it allow for complete academic freedom or be conducted in accordance with delegated national priorities.



From a group exhibition, **Footsteps**, created by artists of the OUI publishing house, inspired by the 150th anniversary of Charles Darwin's *On the Origin of Species*.

Contacts with National and International Research Management Authorities

Representatives of the OUI Research Authority participated in professional conferences on research policy in Israel and elsewhere. Conferences included update and information meetings with European Union representatives in Israel and in Europe, discussions in the Knesset Science Committee and meetings of the Directors' Forum of Research Authorities of all the Universities in Israel and of the European Organization of Research Authorities.

Research Grants from External Funds

15 studies by OUI faculty were awarded funding by external funds this year:

- **Dr. Nurit Gronau** received a grant from the National Institute of Psychobiology in Israel for her research on "The role of global contextual factors in visual object perception: An fMRI study".
- **Dr. Eran Chajut** (with Prof. Eitan Zoher, Tel Aviv University) received a grant as part of a new program on behalf of the Israel Science Foundation (ISF), for research on "Implicit 'absolute pitch' and exposure to musical keys: An unacknowledged effect of familiarity on the perception and evaluation of music".
- **Prof. Aviad Heifetz** (with Prof. Jürgen Dix of Clausthal University, Dr. Wojtek Jamroga of Luxembourg and Prof. Dov Samet of Tel Aviv University) received a grant from Dagstuhl University for research on "From game theory to logic and back".
- **Dr. Mustafa Kabha** received a grant from the Arabic Language Academy for research on "Place names vis-à-vis their geographical context".
- **Dr. Mustafa Kabha** received a grant from The Robert H. Arnow Center for Bedouin Studies and Development for research on "The oral history of Arab society in the Negev".
- **Dr. Oranit Klein** received a grant from the Second Authority for Television and Radio, for her research on "Searching for a stable and binding link between television and interactivity".

- **Prof. Eli Levin** (with Prof. Doron Lubinsky of Georgia Institute of Technology) received a grant from US-Israel Bi-national Science Foundation (BSF) for research on "Rational interpolation, biorthogonal polynomials, and universality".
- **Dr. Gal Levy and Dr. Mohammad Massalha** received a grant from the ISF, for research on "Alternative education: Towards a new Arab educational space."
- **Prof. Miriam Souroujon** received a grant from the Muscular Dystrophy Association (MDA) for her research on the "Involvement and therapeutic potential of T regulatory cells in myasthenia gravis: studies in EAMG".
- **Prof. Miriam Souroujon** received a grant from the Association Française contre les Myopathies (AFM) for her research "Suppression of myasthenia gravis by regulatory T cells: studies in EAMG".
- **Prof. Haim Saadoun** received a grant from the US Holocaust Memorial Museum for research on "North Africa and its Jews in the second world war".
- **Dr. Iris Shagrir** received a grant from the ISF for her research on "Creating a Frankish capital: Jerusalem in the 12th century".
- **Prof. Yoav Yair** (with Dr. Efrat Morin of Tel Aviv University) received a grant from the Ministry of Environmental Protection, for research on "Climate change impacts on hydrological response and on flash flood frequency and magnitude of Israel drainage basins".
- **Prof. Yoav Yair** received a grant from ISF for research on "Numerical modeling and laboratory studies of thunderstorms and sprites in planetary atmospheres".
- **Dr. Baruch Ziv** (with Dr. Hadas Saaroni of Tel Aviv University) received a grant from the Israel Ministry of Environmental Protection for research on "Temperature, heat-stress and rainfall fluctuations and trends in Israel during the last 30 years: Is it evidence of climatic change? Climatological-synoptic study".

In addition, **Prof. Benjamin Neuberger** (with Dr. Lynn Schler of Ben Gurion University of the Negev, Dr. Ruth Gino of Ben Gurion University of the Negev, Dr. Galia Sabar of Tel Aviv University, Dr. Louise Bethlehem of the Hebrew University of Jerusalem, and Prof. Steven Kaplan of the Hebrew University of Jerusalem) received a grant from the Humanities Fund of the Council of Higher Education for their inter-university program in African Studies.

Two of the studies which received funding from external sources are described below:

- **Dr. Baruch Ziv: Temperature, heat-stress and rainfall fluctuations and trends in Israel during the last 30 years: Are they evidence of climatic change? A climatological-synoptic study**

Israel is located on the margin of the desert belt. Its northern part is subject to Mediterranean climate while its southern part is exposed to arid conditions. This location implies frequent heat waves, dry spells and droughts, in addition to other extreme weather changes and climatic fluctuations. Future warming and drying forecasts have therefore severe environmental implications, and verifying or refuting these predicted trends against measured data from the last decades is crucial. The proposed research aims at studying temperature, heat-stress and rainfall fluctuations and trends in Israel over the last 30 years. This includes daily minimum and maximum temperatures, extreme temperatures, occurrence and length of heat and cold waves (over selected thresholds). The relative humidity and its linkage to heat stress will be studied as well. For rainfall, monthly and annual, trends will be analyzed for the different regions of Israel, as well as changes in the location of the aridity borders, of 400, 300 and 200mm, which are critical for dry farming and natural vegetation. In addition, daily rainfall distribution will be analyzed, including trends in daily rainfall thickness, occurrence and length of rain and dry spells. The objective is to determine whether significant climatic changes can be identified in local, regional and national scales. Furthermore, the ability of changes in the occurrence of the regional synoptic systems to explain inter-annual

variations will be studied, as well as long-term trends in temperature, heat stress and rainfall regimes. The study will examine whether signatures of the predicted warming and drying can already be noted from observations of the past 30 years.

■ **Dr. Iris Shagrir: Creating a Frankish capital: Jerusalem in the 12th century**

The project will explore the strategies employed in changing the makeup of the city of Jerusalem, seized by the crusaders in July 1099. It will focus on the religious dimensions of the process by analyzing the role of the church of Jerusalem in converting the urban space, and realigning its holiest focal points by novel ritual and liturgical organization. The creation of a new capital city required planning, creativity and innovation, and accorded church leaders an active role in creating a livable, familiar and economically functioning city for Catholic immigrant-colonizers, crusaders, pilgrims, native population, as well as, in the future, non-Christian visitors. The sources for exploring the nature of the transformation are contemporary manuscripts and texts, some of which are not edited or studied, or not studied in this context before. The project will present a detailed examination of the barely-studied Breviary of the Church of the Holy Sepulcher of Jerusalem, a Latin text in manuscript form, and will analyze the liturgical choices made by the clergy of Jerusalem in church and in the urban outdoor worship at large, their devotional orientations, and the measure of European import vs. local innovation. The extent to which the efforts to create an engaging religious space and an attractive international pilgrimage center will be studied based on several other manuscripts, hitherto unnoticed: a new anonymous 12th century pilgrimage account of the city, and narratives of potential immigrants to Jerusalem.

Internal Grants and Funding for OUI Research

The OUI funds studies by its researchers in order to give them leverage for application to further funding from external foundations. In 2008-2009 the steering committee approved a total of 79 grant applications to the OUI's internal fund.

The Chais Research Center for the Integration of Technology in Education

The Chais Research Center examines the integration of diverse technologies in teaching processes. OUI Faculty members of all disciplines are engaged in studies designed to improving the integration of these technologies into courses. The Chais Center operates as a consortium of OUI teaching staff, supports studies by its members, holds academic seminars and grants scholarships to outstanding graduate students in various disciplines. The Center also holds research conferences and workshops. This year 51 studies were conducted at the Chais Center, five of them fully funded by the Center.

Below are brief descriptions of several selected studies:

■ **Prof. Yoram Eshet and Dr. Nitza Geri: The effect of text design on critical reading in print and digital displays**

The study examined the effect of text display format on critical reading among students. A significant decrease in critical reading was found in incongruent reading situations (e.g., when text designed for print was scanned and read from a digital display). Results illustrate the crucial role of matching text design to its reading format.

■ **Dr. Avner Caspi and Tamar Levin: The influence of media richness on instruction of complex content**

In the experiment, the richness of a medium, complexity of content, and type of instruction via Skype™ environment were manipulated to test the prediction that a rich medium is required to convey complex learning materials. Results support the Media richness theory: Achievements were higher when complex content was instructed via a rich medium.

- **Dr. Paul Gorsky and Mirela Widder: Using computed simulation to overcome visual obstacles in 3D geometry teaching**

This research examines the process of high school students learning 3D geometry using computerized visualization tools. Different learning processes associated with learning 3D geometry have been mapped, thus identifying particular instances wherein visualization tools reduced or increased cognitive load.

- **Dr. Sigal Eden, Dr. Tali Heiman and Dr. Dorit Olenik-Shemesh: Characteristics of cyber-bullying among adolescents and its implications on social-emotional aspects**

The study explores relationships between the characteristics and patterns of cyber-bullying (internet-violence) among adolescents and social, emotional and personality variables.

Promotions of Senior Academic Faculty

- Prof. Yoram Eshet, Dept. of Education and Psychology was promoted to Full Professor.
- Prof. Tamar Hermann, Dept. of Sociology, Political Science and Communication, was promoted to Full Professor.
- Prof. Anat Barnea, Dept. of Natural Science, was promoted to Associate Professor.
- Prof. Daphna Ephrat, Dept. of History, Philosophy and Judaic Studies, was promoted to Associate Professor.
- Prof. Amir Horowitz, Dept. of History, Philosophy and Judaic Studies, was promoted to Associate Professor.
- Prof. Yagil Levy, Dept. of Sociology, Political Science and Communication, joined the senior faculty as Associate Professor.
- Dr. Yuval Eylon, Dept. of History, Philosophy and Judaic Studies, was promoted to Senior Lecturer.
- Dr. Oren Soffer, Dept. of Sociology, Political Science and Communication, was promoted to Senior Lecturer.
- Dr. Yuval Cohen, Dept. of Management and Economics, joined the senior faculty as Senior Lecturer.
- Dr. Adia Mendelson-Maoz, Dept. of Literature, Language and the Arts joined the senior faculty as Senior Lecturer.
- Dr. Mati Meyer, Dept. of Literature, Language and the Arts, joined the senior faculty as Senior Lecturer.
- Dr. Iris Shagrir, Dept. of History, Philosophy and Judaic Studies, joined the senior faculty as Senior Lecturer.
- Dr. Alexandra Meiri, Dept. of Literature, Language and the Arts, joined the senior faculty as Lecturer.
- Dr. Yael Munk, Dept. of Literature, Language and the Arts, joined the senior faculty as Lecturer.

Appointments to OUI Faculty 2008-2009

- Dr. Gil Alon, Mathematics Division
- Dr. Diamanta Benson-Karhi, Dept. of Management and Economics
- Dr. Rica Gonen, Dept. of Management and Economics
- Dr. Tal Hassner, Computer Science Division
- Dr. Dafna Hirsch, Dept. of Sociology, Political Science and Communication and Dept. of Literature, Language and Arts
- Prof. Yagil Levy, Dept. of Sociology, Political Science and Communication (joined the senior faculty)
- Dr. Yishay Maoz, Dept. of Management and Economics

- Dr. Adia Mendelson-Maoz, Dept. of Literature, Language and the Arts (joined the senior faculty)
- Dr. Ophir Münz-Manor, Dept. of History, Philosophy and Judaic Studies
- Dr. Ravit Nussinson, Dept. of Education and Psychology
- Dr. Noam Shental, Computer Science Division
- Dr. Ronit Weisman, Dept. of Natural Sciences

OUI Outstanding Young Researchers Awarded the Allon Fellowship

The Allon Fellowship for young excelling researchers is considered one of the most prestigious scholarships. Allon Fellowship awardees are guaranteed tenure-track positions in Israel's universities. The university undertakes to hire them upon completion of their three year Fellowship and fund their posts from regular budgets. Two such Allon fellowships for 2010-2012 were awarded to two OUI faculty members in the Department of History, Philosophy and Judaic Studies, Dr. Inbal Ofer and Dr. Ishay Landa who will join the OUI in 2009-2010.

OUI Faculty Member Appointed President of International Association

Prof. Aviva Halamish was appointed President of the Association of Israel Studies (AIS), established in 1974 and comprised of scholars in numerous disciplines of social sciences and of the humanities from around the world.

Awards and Honors to OUI Faculty Members

- The 2009 Tshetchik Prize for Studies on the Security of Israel from the Institute of National Security Studies of Tel-Aviv University was awarded to **Prof. Yagil Levy**, for his book *From the Army of the People to the Army of the Periphery* (Carmel, 2007, in Hebrew).
- The best JASIST paper of 2008 was awarded to Ofer Bergman, **Ruth Beyth-Marom** and Rafi Nachmias, "The User-Subjective Approach to Personal Information Management Systems Design – Evidence and Implementations," *Journal of the American Society for Information Science and Technology* (JASIST), 59 (2), 235-246.

Collaboration in Publishing Scientific Journals

Hamizrah Hehadash [The New East]

Hamizrah Hehadash is a journal of the Middle East and Islamic Studies Association of Israel (MEISAI), formerly the Israeli Oriental Society. The journal is considered the leading Israeli academic periodical on Middle Eastern, Asian and African studies. The Open University collaborated with the Association in publishing the journal and an additional volume of this joint effort appeared this year.

Zmanim [Times]

Four issues of *Zmanim*, the reputable history quarterly, were published this year. The journal is published by the Open University in collaboration with the History Department at Tel Aviv University and the Zalman Shazar Center for Jewish History, and under the auspices of the Israel Historical Society.

For a list of faculty publications, see Appendix A, p. 48