

## WESTERN WALL WEARING AWAY? DISCOVERY OF EXTREME EROSION PROCESS COULD GUIDE NEW PRESERVATION TECHNIQUES

Visitors to the Western Wall in Jerusalem can see that some of its stones are extremely eroded. This is good news for people placing prayer notes in the wall's cracks and crevices, but presents a problem for engineers concerned about the structure's stability.

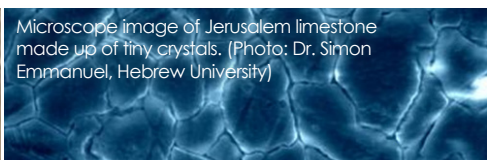
The Western Wall is a remnant of the ancient wall that surrounded the courtyard of the Jewish Temple in Jerusalem. It is located in Jerusalem's Old City at the foot of the Temple Mount.

To calculate the erosion in the different kinds of limestone that make up the Western Wall, researchers from the Hebrew University of Jerusalem used a laser scan to create an accurate three-dimensional computer model. The researchers are Dr. Simon Emmanuel, the Harry P. Kaufmann Senior Lecturer in Environmental Water Technology, and PhD student Mrs. Yael Levenson, at the Hebrew University's Institute of Earth Sciences.

As reported in an article accepted for publication in the journal *Geology*, they found that stones made up of relatively large crystals were resistant to wear, so that they were almost unchanged in the 2000 years since they were originally put in place. By contrast, limestone with very small crystals (about one thousandth of a millimeter in size) eroded far more quickly.

According to Dr. Emmanuel, "Understanding such weathering processes could help guide the development of effective preservation techniques. For example, it may be possible to develop materials that slow the rate of erosion by binding the tiny crystals in the rock together. Advanced engineering techniques like this should assist efforts to protect not only the Western Wall, but other cultural heritage sites in Israel and around the world".

The research appears as "Carbonate weathering rates accelerated by micron-scale grain detachment," in the journal *Geology*. The research was supported by the Israel Science Foundation.



Microscopic image of Jerusalem limestone made up of tiny crystals. (Photo: Dr. Simon Emmanuel, Hebrew University)

## HEBREW UNIVERSITY GRADUATE STUDENT WINS KAYE INNOVATION AWARD FOR NOVEL SYSTEM THAT PREVENTS MICROBIAL CONTAMINATION OF FOOD PACKAGING

Invention seen as having huge commercial potential

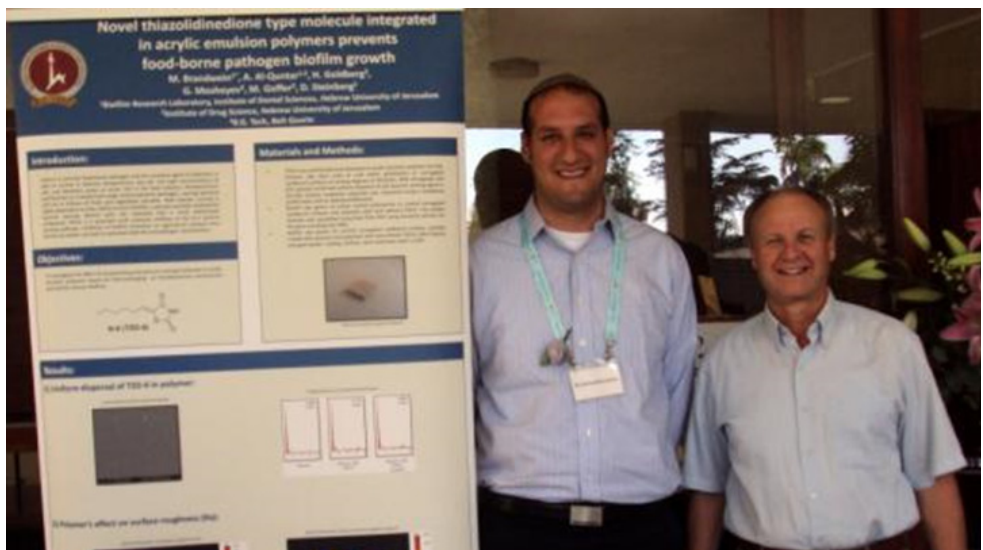
Eating fruits and vegetables is good for you, but sometimes there's a price to pay: illness caused by bacterial biofilms that adhere to the produce and to the packaging in which it's shipped.

Now a graduate student at the Hebrew University of Jerusalem has discovered a way to attack those bacteria on food packaging. Using a novel packaging system to disrupt those bacteria, his invention has huge commercial potential.

The student, Michael Brandwein, is a recent immigrant to Israel from New York City. He is a researcher under the supervision of Prof. Doron Steinberg

from the Biofilm Research Laboratory of the Hebrew University's Dental Faculty. Brandwein's research has focused specifically on corrugated cardboard boxes, the worldwide medium for transporting the vast majority of fresh agricultural produce. The technology has now been successfully incorporated into industry-specific acrylic polymers, meant to coat the corrugated cardboard used in the fresh produce.

The Hebrew University, through its technology transfer company, Yissum, holds granted patents on the process, and has signed an agreement with B.G. Tech of Kibbutz Beit Guvrin



Prof. Doron Steinberg from the Hebrew University's Biofilm Research Laboratory. (Photo: Hebrew University) Steinberg from the Hebrew University's Biofilm Research Laboratory. (Photo: Hebrew University)

## MELTON THRIVING IN SYDNEY AND MELBOURNE

2014 has been an exciting year for the Australian Chapters of The Florence Melton School of Adult Jewish Learning. In Sydney 132 students enrolled for the various courses and Melbourne is once again enjoying the benefits of Melton learning.

Melton's success in Sydney is due to its reputation, its excellent faculty and to the popularity of the Core and Scholars Courses. The topical new courses Beyond Borders: The History of the Arab-Israeli Conflict and Mysticism and Kabbalah: Secret Knowledge in Judaism have been extremely well received. Our link to the Department of Hebrew, Biblical and Jewish Studies at the University of Sydney ensures that we have access to a high calibre of teaching staff. Dr Michael Abrahams-Sprod and Dr Avril Alba are faculty members of the department. Rabbi Dr Orna Triguboff, Rabbi Zalman Kastel



and Aviva Winton are graduates of the department. Rebbetzin Esty Gutnick, Rabbi Gary Robuck and Executive Director of WIZOAnat Shechter-Vidor are highly experienced Melton teachers.

In Melbourne, Bialik College, Hawthorn, is thrilled with its new partnership with the Florence Melton School of Adult Jewish Learning. The College decided to commence its first year with the program "Foundations of Jewish Family Living" – Jewish values for parents to share with their children, a topic that is so frequently discussed today. There are 2 classes consisting of Bialik parents and teachers, particularly from the Early Learning Centre and also young couples where one partner is not born in the Jewish religion. The students are most enthusiastic about the experience of studying the curriculum with Rabbi Shneur Waks.

## OPENING OF CONFUCIUS INSTITUTE FURTHERS INTERNATIONALISATION AND RELATIONS WITH CHINA

The Vice Prime-Minister of The People's Republic of China, Mme. Liu Yandong, led a delegation of senior ministers and university presidents to the Hebrew University of Jerusalem recently, to participate in the Opening Ceremony of a new Confucius Institute



Hebrew University's president, Prof. Menachem Ben-Sasson, and Vice Prime-Minister of China, Mme. Liu Yandong, unveil a plaque to launch the new Confucius Institute at the Hebrew University. (Photo: Mel Brickman)

The Confucius Institute will promote the deepening of academic research into Chinese culture and history; serve the wider community through seminars on China's society, economy and government for Israeli government officials, civil servants and business executives; and enhance mutual understanding between Israel and China.

### Expanding Relations With China

The Hebrew University currently has 17 agreements with academic bodies in China.

The number of Asian students at the Hebrew University has more than doubled in recent years. The recent increase is attributed to the availability of scholarships for Chinese students provided by Israel's Council for Higher Education (CHE) and by university supporters. Of particular note is the gift of Chinese business leader and Hebrew University Governor Zhao Hanqing, which offers scholarships for Chinese students for studies in areas such as agriculture, mathematics and computer sciences.

Board of Governors 2015  
May 29 – June 3

90  
Preserving the Past,  
Promising the Future

Dear Friends,

I am honored to invite you to the annual International Board of Governors meeting, which will take place from May 29 to June 3, 2015. This 78th session of the Board of Governors will celebrate the 90th anniversary of the official opening of the Hebrew University. During that opening ceremony on April 1, 1925, Chaim Nahman Bialik proclaimed "We all know and feel that at this moment, on Mount Scopus, Israel has lit the first candle in the inauguration of its spiritual life." In that spirit, and on the eve of the holiday that commemorates the miracles performed for our ancestors "in those days and in our time", we send you and your families warmest wishes for a very happy Hanukah.

The sessions of the upcoming Board of Governors meeting will highlight the accomplishments of the Hebrew University in the past while underscoring the vision and promise for the future.

BOARD OF GOVERNORS 2015, MAY 29 – JUNE 3

AMONGST THE KEY EVENTS ARE:

The inauguration of the new home of The Jack, Joseph and Morton Mandel School for Advanced Studies in the Humanities

An academic program that focuses on the groundbreaking research and programs initiated over the past 90 years

Jubilee Celebration: Fifty years since the establishment of the Harry S. Truman Institute for the Advancement of Peace

Performance by The Jerusalem Symphony Orchestra to mark the closing of the 78th Board of Governors meeting.

And of course, our traditional Convocation, during which the degree of Doctor *Philosophiae Honoris Causa* will be conferred upon some of the leading public figures worldwide, and the degrees of Doctor of Philosophy and Doctor of Law awarded to Hebrew University graduates.

Please see the full program, which is being continually updated, at [www.hubog2015.com](http://www.hubog2015.com)

We very much look forward to the upcoming meetings and to celebrating the 90th anniversary of the Hebrew University of Jerusalem together.

Prof. Ronnie Friedman, Vice President for Advancement and External Relations

## PRE BOARD OF GOVERNORS – DRAGON BOAT ISRAEL FESTIVAL

The Hebrew University is partnering with Dragon Boat Israel (DBI) in an exciting team event to be held immediately prior to the HU Board of Governors meeting.

At this time, an Australian team of 6 paddlers is seeking Australian participants to fill their boat for this 2-day

festival on the Sea of Galilee. Charity dollars earned will benefit projects related to the subject of 'Hebrew University for the World'.

Further details are available at [www.dragonboatisrael.com](http://www.dragonboatisrael.com) or by contacting the Australian Friends.

Dragon Boat Israel

CHARITABLE PARTNER

Paddle into history with  
Dragon Boat Israel on the Sea of Galilee

May 28-29, 2015

Create a team! Join a team! Support a team!

## YISSUM JUBILEE: CELEBRATING 50 YEARS OF COMMERCIALISING INNOVATIONS

Founded in 1964 to protect and commercialise the Hebrew University's intellectual property, Yissum Research Development Company of the Hebrew University of Jerusalem Ltd is ranked among the top technology transfer companies. Yissum has registered over 8,300 patents covering 2,337 inventions; has licensed out 700 technologies and has spun-off 80 companies. Products that are based on Hebrew University technologies and commercialised by Yissum generate today over \$2 Billion in annual sales.



Clockwise from top left: Mobiley, Cherry Tomato Hybrids, Briefcam, Exelon, PeriChip, Doxil, Pepper Hybrids.



# NEWS FROM AROUND AUSTRALIA

## OCEAN ACIDIFICATION COULD LEAD TO COLLAPSE OF CORAL REEFS

**Over 35 years, a 40% reduction in calcium carbonate deposits in Australia's Great Barrier Reef**

An expedition from the Hebrew University of Jerusalem and the Carnegie Institute of Science has measured a roughly 40% reduction in the rate of calcium carbonate deposited in Australia's Great Barrier Reef in the last 35 years — a scenario that could damage the reef framework and endanger the entire coral ecosystem.

The ecological success of coral reefs depends on their calcium carbonate (CaCO<sub>3</sub>, limestone) structures that function as a huge filter to obtain plankton from the open ocean. Yet recent environmental changes including coastal nutrient pollution, global warming and ocean acidification caused by atmospheric CO<sub>2</sub> increasingly threaten the existence of these unique ecosystems.

To better understand the effect of acidification on coral growth decline, Hebrew University scientists led by Prof. Jonathan Erez and Prof. Boaz Lazar at the Fredy and Nadine Herrmann

Institute of Earth Sciences, together with Carnegie Institute colleagues Dr. J. Silverman and Dr. K. Caldeira, carried out a community metabolism study in Lizard Island at the Great Barrier Reef in Australia.

According to Erez and Silverman, "The results of this study show a dramatic decrease in the calcification of the reef, and that it was likely caused by ocean acidification. When the rate of calcification becomes lower than the rate of dissolution and erosion, the entire coral ecosystem could collapse and eventually be reduced to piles of rubble. The collapse of this habitat would ultimately lead to the loss of its magnificent and highly diverse flora and fauna."



Hebrew University & Carnegie Institute researchers measured effects of ocean acidification on coral calcification at Australia's Great Barrier Reef.

## WAS DA VINCI WRONG? FRICTION AND FRACTURE ARE INTERRELATED

Overtuning conventional wisdom stretching all the way to Leonardo da Vinci, new Hebrew University of Jerusalem research shows that how things break (fracture) and how things slide (friction) are closely interrelated. The breakthrough study marks an important advance in understanding friction and fracture, with implications for describing the mechanics that drive earthquakes.

Over 500 years ago, da Vinci described how rough blocks slide over one another, providing the basis for our understanding of friction to this day. The phenomenon of fracture was always

considered to be something totally different.

But new research by Prof. Jay Fineberg and his graduate student Ilya Svetlizky, at the Hebrew University's Racah Institute of Physics, has demonstrated that these two seemingly disparate processes of fracture and friction are actually intimately intertwined.

Appearing in the journal *Nature*, their findings create a new paradigm that's very different from the da Vinci version, and, according to the researchers, give us a new understanding of how earthquakes actually occur.

## NEW SURVEY REINFORCES UNIVERSITY'S INTERNATIONAL STANDING AS ACADEMIC AND RESEARCH LEADER

The Hebrew University of Jerusalem has been ranked first in Israel, third in Asia, and 70th globally in the 2014 Academic Ranking of World Universities (ARWU) released today. Since 2003, the authoritative annual report has ranked the world's 500 best universities from more than 1,200 surveyed.

The Hebrew University's President, Prof. Menachem Ben-Sasson, said: "We are proud and gratified that once

again the Hebrew University has been recognized as one of the world's 100 leading universities. Since these rankings were first launched in 2003, the Hebrew University has consistently been ranked among the world's best. That the Hebrew University continues to be so highly rated is a testament to the hard work and uncompromising quest for academic excellence of our faculty members and extended university family."

## COMBINING THE HIGHEST STANDARDS OF ACADEMIC EXCELLENCE WITH COMMUNITY INVOLVEMENT FOR THE BENEFIT OF ISRAEL, THE JEWISH PEOPLE, AND THE PEOPLES OF THE WORLD

**Chief Rabbi's Delegation Visits the Hebrew University - Largest gathering of rabbis since the university's opening" learns about Hebrew University Tikkun Olam programs to heal the world**

Chief Rabbi Ephraim Mirvis, the 11th Chief Rabbi of the United Hebrew Congregations of the Commonwealth, led a delegation of 50 rabbis on a visit to the Hebrew University of Jerusalem. The delegation heard presentations about Hebrew University Master's degree programs that exemplify *Tikkun Olam* — the Jewish value of sharing know-how and skills to help make the world a better place — in some of the most deprived and poorest societies. They also played in the campus's Hecht Synagogue overlooking the Temple Mount and Old City of Jerusalem.

Dr. Jonathan Mirvis, a Hebrew University senior lecturer and brother of Chief Rabbi Mirvis, remarked that not since the Hebrew University's opening ceremony in 1925 had so many rabbis congregated on its Mount Scopus campus. Dr. Mirvis lectures at the University's Melton Centre for Jewish

Education and the Glocal Community Development program.

Welcoming the delegation, Hebrew University Rector Prof. Asher Cohen described the University's mission of combining the highest standards of academic excellence with community involvement for the benefit of Israel, the Jewish people, and the peoples of the world. Two examples of how this concept is being put into practice are the International Master's in Public Health (IMPH) at the Faculty of Medicine, and the Glocal Community Development programs.

Prof. Yehuda Neumark, Head of the Braun School of Public Health and Community Medicine and former Director of the IMPH program, described its worldwide impact over 40 years, and the remarkable achievements of its 800 graduates from 90 countries, working both in their home countries and with international agencies. Representing

the current cohort, three students from the Philippines, Puerto Rico and South Sudan described their reasons for coming to Israel, the importance of the IMPH program and their future career plans.

Sudanese physician Dr. Kandyang Modi Dumo Jansuk said the crucial knowledge and skills provided by the IMPH program would provide him with the intellectual and practical tools to make a major difference to the public health system of his war-torn country. Aya Navon, Internship Coordinator and lecturer at the Glocal Community-Development Studies Program, spoke of Glocal, the innovative, interdisciplinary two-year Master's program for students from Israel and overseas. It aims to effectively translate academic research into practical understanding conducive to work with communities and development organisations across the globe. Classroom studies are combined

with an internship in a community in the developing world.

Glocal student Bertrand Mizeru from Burundi said studying in Jerusalem at the Hebrew University had changed his entire view of Israel and the Jewish people, which were portrayed differently in the wider world.

Following the visit, Chief Rabbi Ephraim Mirvis said: "During my inaugural mission to Israel, 50 UK Rabbis were moved and inspired through what they saw and heard at the Hebrew University here in Jerusalem. These groundbreaking Hebrew University initiatives are a source of pride for the Jewish community as an outstanding example of Tikkun Olam. The programs enable and empower motivated men and women to make a real difference in their home countries. The programs are an excellent example of Israel's contribution to the wider world and are worthy of our full support."



The Chief Rabbi's delegation meets with Hebrew University students. Standing next to Chief Rabbi Ephraim Mirvis is Dina Gidon, Israel Representative of the Pears Foundation (UK). (Photo: Office of the Chief Rabbi)



Hebrew University Rector, Prof. Asher Cohen presents Chief Rabbi Ephraim Mirvis with a copy of the Hebrew University's Crown Bible. (Photo: Office of the Chief Rabbi)

### FEDERAL

The Australian Friends of the Hebrew University recently held its Federal AGM in Surfers Paradise.

Re-elected were President Robert Simons OAM, Hon. Treasurer Philip Moses and Hon. Secretary Jonathan Goodman. Additional board members are State Presidents Michael Dunkel (NSW), Henry Malecki (QLD), Pamela Mendels (SA), Grahame Leonard AM (VIC) and A/Prof Peter Winterton AM (WA). Visiting from Israel was Hebrew University Professor Ronnie Friedman, Vice President for External Affairs and University Advancement who, alongside Senator the Hon Brett Mason, Federal Parliamentary Secretary, Foreign Affairs, addressed the Gold Coast community on the Saturday evening.



Federal President Robert Simons presents a gift to Prof Ronnie Friedman

### NEW SOUTH WALES

#### NSW AGM

At the recent NSW State AGM, Michael Dunkel was re-elected as President and Shirley Ehrlich Vice President, Philip Moses Honorary Treasurer and Jonathan Goodman as Honorary Secretary. Other board members elected were Fred Ehrlich OAM, Rachele Schonberger, Irene Selecki, Robert Simons OAM and Richard Trayer.

### HONOURS CLUB

Former "High-Tech Spy" and now author, David Rosenberg spoke about his recently released book "Inside Pine Gap", the first book written about Pine Gap by an individual who held the top secret security clearance that allowed him to work inside Operations. His book details the intelligence collection mission and the partnership between Australia and the US that has made Pine Gap the most important satellite ground site in the Intelligence Community.

Following "Operation Protective Edge", the focus of attention was on Israel and Gaza. Barry invited Lynda Ben-Menashe, Community Relations Manager at the NSW Board of Deputies, to our September meeting. As she was due to deliver a presentation "Talking about Israel, Hamas and the rest of the world" to a non-

### VICTORIA

The Australian Friends of the Hebrew University-Victorian Division had a change of guard at its Annual General Meeting held on Sunday 23 November. Larry Gandler handed over the reins after 3 years as President to the uncontested nomination of Grahame Leonard AM. Grahame brings many years of experience with him from within the Jewish community and more broadly in his role as a Victorian Multicultural Commissioner.

Grahame began his Presidency with nominations for new Board members and outlined his vision for new portfolios. Robert Simons AM, Federal President thanked Larry for his commitment and welcomed Grahame to the role. An event was held in the evening at Beth Weizmann with speakers, Prof Ronnie Friedman, Vice President, Advancement and External Affairs and Prof Greg Barton, who spoke about the rise of the Islamic State, challenges posed to global stability and the implications for Australia and Israel. The successful event was attended by 200 people.

L to R: Robert Simons OAM, Grahame Leonard AM, Prof Ronnie Friedman, Prof Greg Barton, Lady Cowen and Eitan Drori.



### WESTERN AUSTRALIA

The visit from the 18th – 20th November of Professor Ronnie Friedman, Vice-President (External Relations) of the Hebrew University of Jerusalem, enabled many new links to be established and old relationships to be fortified.

Professor Friedman addressed a small but dedicated group at a celebratory cocktail party about the achievements and aspirations of the Hebrew University of Jerusalem (HUJ). Prof. Friedman, a leading expert in his own right in the field of animal immunology, explained that the HUJ was originally founded with the aim of delivering knowledge in Hebrew. Today however, the HUJ is a "pluralistic" institution that teaches many courses in English to students of all religions, based on academic merit.

Some old and new friends welcomed Prof. Friedman at a dinner on 18th November. Dr Harry Hoffman OAM and Mrs. Hoffman, who have been long-standing benefactors, were guests of honour. On Wednesday 19th November, Prof Friedman kept up a blistering pace at UWA meeting scholars from the disciplines of Agriculture, Plant Biology, Chemistry, and Physics. A special thanks goes to Dr Judith Berman for organising so many meetings at short notice. Prof Friedman also addressed the International Centre and informed the Study Abroad staff at UWA about the HUJ and what students from WA could expect if they were to attend the HUJ.

A special lunch on Wednesday 19th November with the Deputy Vice Chancellor, Prof. Kent Anderson, and the Pro Vice-Chancellor (international) Iain Watt, was held at University House to commemorate the signing of the Student-Exchange agreement between UWA and HUJ. Both parties acknowledged that this agreement can be extended to include post graduates and academic staff from all disciplines. Sourcing financial support in Perth will be essential for the continued funding of this exchange program.

Jewish audience, she was keen to receive feedback from our members. This made for a very different and most interesting meeting with much interaction between Lynda and those present.

Still on the subject of Israel, Natalee Pozniak, Public Affairs Manager at the NSW Jewish Board of Deputies, delivered a very informative talk on "Israel in the eye of the storm: is the two state solution still viable?" Natalee's role at the Board of Deputies is to provide 'behind-the-scenes' support, particularly in the media and political sectors. This includes drafting speeches and articles, arranging political briefings, identifying worthwhile international speakers to bring to Australia, arranging boardroom lunches and assisting with major events.

Another perspective was sought from Leslie Stein, an associate professor at Macquarie University until his recent retirement. He chose the rather pessimistic title "An Israeli-Palestinian Peace Agreement: An Unattainable Fantasy". Some 55 people were present to hear this most thought-provoking talk. His latest book, *Israel Since the Six-Day War: Tears of Joy, Tears of Sorrow*, completes his acclaimed trilogy on the history of Israel.

Our December meeting, marking the 250th meeting of our Honours Club, was addressed by Dr Shahar Burla, who holds a Master's degree in Political Science from the Hebrew University and a PhD from Bar-Ilan University. He gave a most fascinating address on "The Paradoxes of Religion in Modern Israel" and we very much look forward to hearing more from this most interesting speaker.



L to R: David Rosenberg, sisters Dolly Shadler & Mary Saul with Barry Joseph

Insert: Maisie Hameliri with Lynda Ben-Menashe

### QUAY DINNER

The annual dinner at Leon Fink's Quay Restaurant has been rescheduled to Sunday evening, 22 March 2015.

Always a wonderful event, we look forward to welcoming our supporters to this function.

The focus for the WA Friends of the Hebrew University (WAFHU) over the next few years will be to establish a viable fund for this exchange to continue in perpetuity. Finally a working breakfast on 20th November allowed Prof Friedman to meet with community supporters and to establish links with possible student sponsors in the future. The WAFHU would like to welcome Martin and Barbara Brezger to the WAFHU. Martin was until recently the treasurer of the German Friends in Berlin.

We are putting together an interesting program for 2015 and look forward to Prof Friedman visiting us in Perth again.



L to R: Prof Ronnie Friedman, Dr Judy Berman, A/Prof. Peter Winterton, Prof Graeme Martin and Prof Lex Cohen

## CONTACT US

• **Do you want to know more about the activities of the Friends?**

• **Interested in upcoming events?**

• **Going to Israel soon and keen to visit the Hebrew University?**

• **Interested in study at the University, or do you know someone who is?**

• **Become our Facebook friend – join us on Facebook**

[www.facebook.com/AUSTFHUpage](http://www.facebook.com/AUSTFHUpage)

Please contact us; we can assist.

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