Welcome

Welcome to the Candlemas Edition of Link, the newsletter for families of undergraduate students. We are delighted to have this opportunity to share with you some news from around the University, including the appointments of a new Rector and a new Chancellor, and various other interesting items on current research. We hope that some of you may be interested in registering with the Careers Alumni Network to the benefit of current students and graduates of the University.

For those of you whose students will be graduating in the summer, we trust that you have enjoyed participating in the family programme, and that your links with the University and town of St Andrews will continue beyond graduation.

With best wishes for a lovely summer

Elaine Cartwright (MA 1985)  Sandra Doig
Alumni Relations Officer  Alumni Assistant

Chancellor of the University

The Right Honourable Sir Menzies Campbell, CBE, QC, MP was officially installed as the new Chancellor of the University of St Andrews at a ceremony on the 22nd April 2006. Sir Menzies was elected (unopposed) as Chancellor by the General Council, which includes all graduates of the University.

The Chancellor is the titular head of the University. He is empowered to confer degrees “with the advice of the doctors and masters of the University”. He may also preside at meetings of the General Council.

Sir Menzies succeeds Sir Kenneth Dover who has retired from office after 25 years in post.

Installation of the new Rector

In last October’s edition of Link (Martinmas 2005), we informed you that Mr Simon Pepper had recently been elected as the new University Rector.

Hailing from Highland Perthshire, Simon Pepper built a reputation for effectiveness and leadership as Director for 20 years of World Wildlife Fund (WWF) Scotland - part of the global network of WWF which campaigns on environmental policy over a wide range of issues relating to land, sea and freshwater resources, climate change and species protection.

Mr Pepper also holds appointments on the boards of two Scottish land use agencies (Deer and Forestry Commissions) and is an adviser to Scottish Ministers on Sustainable Development, sitting on a Cabinet Sub-Committee on that subject. He was awarded an OBE in the Millennium Honours list. He is passionate about the role of education in meeting the enormous challenges of the 21st Century and was “thrilled” to be elected to the three-year role of Rector.

As is traditional, the student community welcomed Mr Pepper on the 9th March, by way of the rectorial ‘drag’, where he was pulled through the town’s streets in an open carriage.

Mr Pepper was then officially installed at a public ceremony on the 10th March by the Principal and Vice-Chancellor Dr Brian Lang. Welcoming addresses were given by Dr Lang (on behalf of the academic community), William Berry (on behalf of the University Court) and Alex Yabroff, President of the Students’ Association (on behalf of the student body).

The Rector took the oath of Office and then gave a rectorial address to his constituents.
New Centres of Excellence

The School of International Relations continues to expand and diversify its research and teaching activities. Preparing to move to its new location in the Faculty of Arts Building has prompted staff in the School to recognise their need for a more collaborative environment within which they can pursue a series of overlapping research agendas. Three new Institutes and Centres of research have been created: Institute of Middle East, Central Asian and Caucasus Studies (2003); Centre for Peace and Conflict Studies (2005); and Centre for Global Rules and Rule Making Institutions (2006). These three new research centres will be joining the long standing Centre for the Study of Terrorism and Political Violence (1994) as locations for exciting and innovative ideas about international politics. These four centres of research excellence are engaged in work to create not only new ideas for scholars but options and information for policy makers and activists worldwide. It is the combination of scholarly research and input into the policy making process that the School sees as its unique contribution to the political realm in the United Kingdom and Worldwide.

St Andrews University Radio

David Wilkinson, Star FM Manager reports on the student radio station.

St Andrews’ very own student radio station, Star FM, was first launched in February 2004. With a team of around 40 students, the two-week trial broadcast included live music, discussion shows, interviews and much more. All of this was squeezed into eight hours every day and proved to be an overwhelming success. Listeners tuned-in on 87.7fm and accessed our live stream at www.standrewsradio.com. Essentially this first broadcast served as a feasibility study for student radio, following many failed attempts to establish a permanent station over the last few decades.

The current academic year has seen the Star FM team grow to number over 200. Another two-week broadcast was run in November 2005 which involved 24-hour broadcasting and an increase to 11 hours of live shows everyday. Hits on our website averaged around 17,000 each day and many listeners utilized our interactive facilities, through text messages and email. Our content proved to be more diverse than before and showcased a wide range of student talent, from playing little-known ‘world’ music to live Gilbert & Sullivan recitals. Former Rector, Sir Clement Freud part-financed the project and co-hosted an evening show from our studio. Other guests included Radio 1 DJ, Zane Lowe, and the Sports Editor for the Sunday Mail.

At time of writing, the Star FM team is preparing for yet another broadcast, beginning on 15th April. We are planning 16 hours of live shows everyday, with our presenting team boasting more talent than ever before. Particular attention has been paid to raising sufficient funds to re-launch, with every two-week broadcast costing around £3000.

Star FM has proved that radio in St Andrews is a worthwhile venture and that the University has an abundance of creative students who can benefit immensely from broadcasting experience. We are confident that Star FM will continue to grow and prosper; eventually meeting our goal of permanent broadcast.

Careers Alumni Network

Paul Brown, the Careers Centre Director, took up post about 18 months ago. He previously worked for 12 years at the Careers Service of Oxford University. He writes with a specific request in mind: to recruit parents as well as alumni to the database of careers contacts...

In today’s competitive graduate jobs market, talking to people who do the work that you think you would like to do is of immense value. It helps you to firm up your decisions and it can provide you with invaluable strategic advice on how to approach your job search and applications.

Recognising this need, the Careers Centre, in conjunction with the Development Office, has developed a database of contacts, who work in many different fields, and who are willing to share their knowledge and insights with current students. Students who access the Careers Centre website www.st-andrews.ac.uk/careers are able to search the database of over 300 alumni and parents who have volunteered to be part of this scheme. The student cannot access the identities or email addresses of these contacts but is able to send an email to the contact through a web page.

Parents can register to become part of the Careers Alumni Network by registering at www.st-andrews.ac.uk/develop/alumni_relations/getting_involved. We hope that many of you will consider registering yourselves for this role. It is a financially cost-free way of supporting the current students of your son’s or daughter’s alma mater and really appreciated by those students who use the network.

If you have any enquiries about how the Careers Alumni Network works or about any other aspect of the current Careers Centre provision or would like to assist us to help students in their career search, then please email me at pfb1@st-andrews.ac.uk. Thank you.
Discovery of Earth-Like Planet Advances Search For Life in Space

Credit: European Southern Observatory

Two scientists at the School of Physics and Astronomy of the University of St Andrews, have played a crucial role in the discovery of a new planet, which astronomers believe is the most Earth-like found to date.

Designated by the unglamorous identifier OGLE-2005-BLG-390Lb, it is five times more massive than Earth and is approximately 20,000 light years from us near the centre of the Milky Way where it orbits its parent star, a red dwarf some five times less massive than the Sun.

OGLE-2005-BLG-390Lb is a small cold world, too cold to support life, but its discovery using the technique of gravitational microlensing has been hailed as a groundbreaking result in the search for extra-terrestrial life.

The planet's discovery has been reported in Nature as the joint result of three independent microlensing campaigns – PLANET/Robonet (Probing Lensing Anomalies Network), OGLE (Optical Gravitational Lensing Experiment) and MOA (Microlensing Observations in Astrophysics) - using a worldwide network of telescopes and involving 73 collaborators from 32 institutions across 12 countries.

The technique of microlensing, first noted by Einstein in 1912, relies upon light from a background star being bent by the gravitational field of a dim foreground star acting as a gravitational lens. This results in an observable brightening and fading of the observed star over a few weeks. With their smaller masses, planets orbiting the lens star can cause an additional blip, lasting from hours to days.

OGLE-2005-BLG-390Lb is only the third planet to be detected by this technique.

“Our discovery provides the first observational hint that rocky/icy sub-Neptune mass planets are common,” Dr Martin Dominik, who is the co-leader of the PLANET collaboration, pointed out.

Professor Keith Horne, who leads the microlensing efforts of the RoboNet project, added, “The new planet confirms that with microlensing we can now find small cool planets down to the mass of the Earth….

Our next goal is to find more of them, with lower masses, in order to measure the abundance of cool Earths and determine if habitable planets like Earth are abundant or rare…. If the abundance is high, the next step is to search for life on those planets.”

Einstein’s Theory Improved

Research from the University of St Andrews has revealed that a ‘simple’ fine-tuning in Einstein's theory of gravity could solve a dark mystery in galaxies that has baffled astrophysicists for three-quarters of a century.

By refining the law of gravity, Chinese astronomer Dr HongSheng Zhao of the University of St Andrews, and his Belgian collaborator Dr Benoît Famaey of the Free University of Brussels (ULB), aim to improve Einstein’s theory and prove whether the mysterious Dark Matter actually exists in galaxies.

Theories of the physics of gravity were first developed by Isaac Newton in 1687 and refined by Albert Einstein’s general theory of relativity in 1905 so that the speed of gravity is equal to the speed of light. While it is the earliest-known force, gravity is still very much a mystery with theories still unconfirmed by astronomical observations in space.

The ‘problem’ with the golden laws of Newton and Einstein is that they do not explain the accelerations of stars in galaxies where there is more gravity observed than predicted.

Legend has it that Newton began thinking about gravity when an apple fell on his head, but according to Dr Zhao: “It is not obvious how an apple would fall in a galaxy. Mr Newton's theory would be off by a large margin; his apple would fly out of the galaxy.”

Astronomers believe that these stars move so fast they would fly apart if they were not being held together by the gravitational attraction of a huge amount of unseen material, first noted by Fritz Zwicky in 1933 and now commonly referred to as Dark Matter (or DM).

Though astronomers cannot detect Dark Matter directly because it emits no light or radiation, it is thought to account for up to 90% of the Universe. Not all scientists believe in the DM theory however, with some preferring to believe the theory proposed by Moti Milgrom in 1983 (and backed up by Jacob Bekenstein in 2004) that a boost in the gravity of ordinary matter is the cause of this acceleration.

Dr Zhao, a lecturer at the School of Physics and Astronomy at St Andrews and member of the Scottish Universities Physics Alliance (SUPA), continued: “Efforts to restore the apple on a nice orbit around the galaxy has over the years led to two schools of thoughts: Dark Matter versus non-Newtonian gravity. There has always been a fair chance that astronomers might rewrite the law of gravity. We have tested a new formula for gravity, which allows gravity to be boosted gradually from the Einstein/Newtonian prediction further away from the solar system.”

“Our ‘simple formula’, which is actually a refinement of Bekenstein’s, is consistent with galaxy data so far, and if further verified for solar system and cosmology, it could solve the Dark Matter mystery. We may be able to answer common questions such as whether Einstein’s theory of gravity is right and whether the so-called Dark Matter actually exists in galaxies.”

“A non-Newtonian gravity formula is now fully specified on all scales by a smooth continuous function; it is ready for fellow scientists to falsify. It is time to keep an open mind while we continue our search for Dark Matter.”

The new formula will be presented to an international audience of experts at Edinburgh’s Royal Observatory in April, which will be given the opportunity to test and debate the reworked theory. Drs Zhao and Famaey will demonstrate their new formula to an audience of Dark Matter and gravity experts from ten different countries.

Marine scientists at the University of St Andrews have spotted a couple of rare Arctic visitors during routine seal surveys.

During regular surveys on 13 December 2005, the Sea Mammal Research Unit (SMRU) spotted a ringed seal (*Phoca hispida*), hauled out a few hundred metres upriver from Bonar Bridge in the Kyle of Sutherland. Earlier in the year, on 25 August, a hooded seal (*Cystophora cristata*) was caught on video in the River Conon in the Moray Firth.

Both species are normally found in the Arctic and have an affinity for ice. There have been records of both species as far south as Portugal, however, this was only the ninth ringed seal and 14th hooded seal reported around the coasts of the British Isles, according to the central database held at SMRU.

The ringed seal is a relatively small seal that resembles the common seal (*Phoca vitulina*). It is usually found associated with open water in fast ice and the outflows of active glaciers, and rarely ventures into the open sea or even on floating pack ice. The hooded seal, in contrast, is a relatively large seal usually found in close association with drifting pack ice.

The explanation for their sudden appearance in the Moray Firth is a matter of speculation. It could be due to changes in oceanographic conditions or a reduction in their prey species.

However, hooded seals are a migratory species and young hooded seals, in particular, are known to be great wanderers. This is not the case with ringed seals but they are thought to be regular visitors to Shetland.

Due to problems with identification, normally the occurrence of either species around the British Isles may simply go unnoticed. This was not the case in this instance thanks to a new study being carried out in the Moray Firth by SMRU in collaboration with the Scottish Executive’s Environment and Rural Affairs Department, Scottish Natural Heritage, Fisheries Research Services, the Association of Salmon Fishery Boards and the University of Aberdeen with funding from the Scottish Executive, the Atlantic Salmon Trust, Scottish Natural Heritage and other charities.

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The recent Spring Telephone Fundraising Appeal has been hugely successful. Forty students took part in the campaign, and spoke with almost 2,000 parents and alumni over the five-week period to raise money for the Appeal Fund, Wardlaw Scholarships, Arts Building and the Family Book Fund. This campaign saw the highest amount ever pledged in a telephone campaign, with a total of £143,000 pledged to date.

Last year, we raised over £36,000 for the Family Book Fund, traditionally used by the Library to purchase additional copies of heavily used textbooks, but now also being used towards the digitisation of the Library collection. At the start of 2006, the Family Book Fund enabled the Library to purchase The Scotsman Digital Archive (www.archive.scotsman.com/) in perpetuity for the University. The print volumes of The Scotsman in our Special Collections department have long been one of the best-used library resources. The move to digital makes this material even more accessible and users can interrogate the material in new ways using all the functionality of a computer search interface.

The money made available by donors to the Family Book Fund has greatly enhanced the student learning experience, allowing the Library to acquire material which, both in print and digital format, will remain available and of value to all current and future students.