The Daily Iladian

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Zivile Opfer in Afghanistan: Die Wut wächst [→]
In Afghanistan wächst nach den vielen zivilen Opfern bei Militäreinsätzen die Wut. Die Skepsis gegenüber allen Ausländern werde größer, stellt ein UN-Sprecher fest. Die Militärs sollten überlegen, wie sie ihre Strategie ändern könnten, fordern Experten. [mehr]

Arbeitskampf bei der Telekom geht weiter [→]
Bei der Deutschen Telekom gehen die Proteste gegen die geplante Auslagerung von 50.000 Stellen weiter. Die Gewerkschaft ver.di rechnet auch heute mit tausenden Streikenden. Im Bezirk Nord soll auch am Himmelfahrtstag sowie am Wochenende die Arbeit teilweise ausgesetzt werden. [mehr]

Chirac verabschiedet sich aus dem Präsidentenamt [→]
Nach zwölf Jahren im Amt hat sich Präsident Chirac in einer Ansprache noch einmal an das französische Volk gewandt. Er scheide mit Stolz und habe "großes Vertrauen in die Zukunft", so Chirac. Seinem Nachfolger Sarkozy wünschte er viel Glück. [mehr]

Kostunica als serbischer Regierungschef bestätigt [→]
Das Parlament in Belgrad hat die neue serbische Regierung gebilligt. Die Bestätigung der Koalition aus drei prowestlichen Parteien erfolgte mit 133 gegen 106 Stimmen. Das Votum fand kurz vor Mitternacht statt, der letzten Frist nach der Wahl vom 21. Januar. [mehr]

Kabinett berät über die Kronzeugenregelung [→]
1999 hatte Rot-Grün die Kronzeugenregelung weitgehend abgeschafft - nun wird sie neu aufgelegt. Das Kabinett berät heute einen entsprechenden Gesetzentwurf von Justizministerin Zypries. Demnach können künftig mehr Kriminelle auf weniger harte Strafen hoffen, wenn sie aussagen. [mehr]

Hamas greift Israel an: 20 Verletzte in Sderot [→]
Die Hamas hat erneut Raketen auf Israel abgeschossen. Dabei

wurden in Sderot 20 Menschen verletzt; die Geschosse schlugen unter anderem in einer Schule ein. Zuvor waren bei innerpalästinensischen Kämpfen im Gaza-Streifen mindestens elf Menschen getötet worden. [mehr]

Weltbank: Druck auf Wolfowitz wächst immer weiter [→]
Weltbank-Präsident Wolfowitz gerät immer mehr in die Defensive. Zwar stärkte die US-Regierung ihm noch einmal den Rücken, doch die Mehrheit der G-7-Staaten fordern offenbar seinen Rücktritt. Der Weltbank-Chef steht wegen der Beförderung seiner Lebensgefährtin massiv in der Kritik. [mehr]

Theodor-Wolff-Preis für sechs Journalisten [→]
Der Theodor-Wolff-Preis der deutschen Zeitungen geht in diesem Jahr an sechs Journalisten. Die mit jeweils 6.000 Euro dotierte Auszeichnung wurde unter anderem für Zeitungsreportagen über Sterbehilfe und Rechtsextremismus verliehen. Der Preis für das Lebenswerk geht an die Kolumnistin Sibylle Krause-Burger. [mehr]

Verfassungsschutz sieht Gefahr durch Islamisten [→]
Vor allem aufgrund des gescheiterten Kofferbombenanschlags spricht der Verfassungsschutz von "einer neuen Dimension“ der Gefährdung Deutschlands - einer Entwicklung vom "Rückzugsraum“ zum "Operationsgebiet“ islamistischer Terroristen. [mehr]

Wächterpreis der Tagespresse verliehen [→]
Der "Wächterpreis" wird von der Stiftung "Freiheit der Presse" für herausragende journalistische Arbeiten, die Missstände aufdecken, verliehen. Er gilt als eine der wichtigsten Auszeichnungen der deutschen Medienlandschaft. Der mit 12.000 Euro dotierte erste Preis ging in diesem Jahr an zwei Reporter vom "Hamburger Abendblatt". [hr]

Polizei erlässt Versamm-

lungsverbot in Heiligendamm [→]
Zum Schutz des G8-Gipfels von Heiligendamm soll im Umkreis des Tagungsorts ein zehntägiges Demonstrationsverbot gelten. Gemäß dieser Verfügung würden nun auch bereits angemeldete Demonstrationen geprüft, teilte die Polizei mit. Gipfelgegner kritisierten die Maßnahme. [ndr]

Chirac verabschiedet sich aus dem Präsidentenamt [→]
Nach 42 Jahren als Politiker und einer zwölfjährigen Amtszeit als Präsident hat sich Jacques Chirac am Abend in einer Fernsehansprache ein letztes Mal an das französische Volk gewandt. Er scheide mit Stolz und habe "großes Vertrauen in die Zukunft" des Landes, sagte der 74-Jährige, und rief zu Einigkeit und Solidarität auf. [mehr]

Umzug von "Bild" und "Bams" beschlossene Sache [→]
Nun ist es sicher: Die Redaktionen von "Bild" und "Bams" werden von Hamburg nach Berlin verlegt. Das beschloss der Vorstand des Axel-Springer-Verlags. Zuvor hatten mehrere hundert Mitarbeiter gegen die Pläne protestiert. [mehr]

EU erhöht Druck auf Weltbankchef Wolfowitz [→]
Kurz vor dem Treffen der Weltbank-Führungsspitze über die Zukunft ihres Präsidenten Wolfowitz verschärft sich der Konflikt. Während die US-Regierung ihm noch einmal den Rücken stärkte, verlangten die EU-Staaten einen "starken Weltbankpräsidenten", um der Weltbank weiterhin Milliardensummen zur Verfügung stellen zu können. [mehr]

Kämpfe zwischen Palästinensern - Raketen auf Israel [→]
Bei den schwersten innerpalästinensischen Kämpfen seit Monaten sind im Gaza-Streifen mindestens elf Menschen getötet worden. In einem Hinterhalt von Hamas-Milizionären wurden acht Kämpfer der rivalisierenden Fatah getötet. Am Abend feuerte die Hamas Raketen auf die israelische Grenzstadt Sderot. [mehr]

SPD streitet über Umgang mit der Linkspartei [→]
Nach dem überraschenden Wahlerfolg der Linkspartei in Bremen stellte SPD-Parteichef Beck sofort klar: Rot-Rot ist auf Bundesebene auch künftig keine Option. Nun wächst bei den Sozialdemokraten der Widerstand gegen diese Position: "Wir beschneiden uns die eigene Machtperspektive." [mehr]

Kronzeugenregelung kommt zu neuen Ehren [→]
1999 hat Rot-Grün die Kronzeugenregelung weitgehend abgeschafft - nun wird sie neu aufgelegt. Einen entsprechenden Gesetzentwurf stellte Justizministerin Zypries vor. Demnach können künftig mehr Kriminelle als bisher auf weniger harte Strafen hoffen, wenn sie aussagen. [mehr]

Im Telekom-Streik wird der Ton schärfer [→]
16.000 Mitarbeiter im Ausstand, keine Gesprächsbereitschaft, aber schwere Anschuldigungen - das ist die Bilanz eines weiteren Streiktages bei der Telekom. Der Konzern drohe streikenden Mitarbeitern, schimpfte ver.di. Kunden müssen weiter mit eingeschränktem Service rechnen. [mehr]

Überfall auf Bus in Italien endet unblutig [→]
Drei Bewaffnete haben in Norditalien einen Regionalbus überfallen. Die Passagiere, die zunächst als Geiseln festgehalten wurden, sind wieder frei. Ein Polizist an Bord sei niedergestochen worden, als er eingreifen wollte. Der Mann sei jedoch nicht schwer verletzt. [mehr]

Vor EU-Russland-Gipfel: Deeskalationstreffen bei Putin [→]
Krisendiplomatie in Moskau: Nach US-Außenministerin Rice hat auch Bundesaußenminister Steinmeier Russlands Präsident Putin getroffen. Alle sind um Deeskalation bemüht - die USA und Russland wollen den zuletzt hitzigen Ton dämpfen, Konflikte mit der EU sind laut Putin nur "unterschiedliche Auffassungen". [mehr]

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Dawn raid shatters Gaza ceasefire [→]
Gunmen storm the home of a Fatah official in Gaza, killing four as another Palestinian truce breaks down.

World Bank hears Wolfowitz case [→]
World Bank President Paul Wolfowitz meets the bank's executive board as he fights for his job.

Sarkozy to take office in France [→]
Outgoing French President Jacques Chirac is set to hand over to his elected successor Nicolas Sarkozy.

Bush names first US 'war tsar' [→]
US President George W Bush appoints Lt Gen Douglas Lute to oversee conflicts in Iraq and Afghanistan.

Serbia MPs approve new coalition [→]
The Serbian parliament approves a coalition government made up of the main pro-democracy parties.

Brazilian guilty of US nun killing [→]
A Brazilian rancher is jailed for 30 years for the killing of US-born nun and environmentalist Dorothy Stang.

Spaniard finds mummy in new flat [→]
A man in Spain discovers the mummified body of the previous owner of the house he bought at auction.

Missing UK girl suspect 'inno-

cent' [→]
A man treated as a suspect in the hunt for missing Madeleine McCann says he is being made a scapegoat and is innocent.

US evangelist Jerry Falwell dies [→]
Leading US conservative evangelist Jerry Falwell dies in hospital in Lynchburg, Virginia, aged 73.

Football: Fifa to probe Tevez saga [→]
Fifa president Sepp Blatter will look into how the Premier League handled West Ham's breach of rules over Carlos Tevez and Javier Mascherano.

Tennis: Murray doubts for France [→]
Andy Murray is a doubt for the French Open after injuring his wrist in the first round of the Hamburg Masters.

Ethiopia warned on Somali pullout [→]
The US and AU urge Ethiopia not to withdraw its troops from Somalia before peacekeepers arrive.

Cameroon's crash pilot 'warned' [→]
The pilot of the plane that crashed in Cameroon was warned about the weather, a senior aviation official says.

US to ignore Russia missile fears [→]
The US will not let Russia veto its missile defence plan in Europe, Secretary of State Condoleezza Rice says.

US detainee 'mentally tortured' [→]
A Pakistani-born US resident detained at Guantanamo Bay tells a tribunal he was "mentally tortured" there.

Violence mars Philippine count [→]
The marathon vote count in the Philippine elections continues as reports come in of fraud and further violence.

Japan boy 'severs mother's head' [→]
A Japanese teenager walks into a police station carrying a human head and claiming to have killed

his mother.

EU to target illegal employment [→]
The European Union is to announce tougher penalties for employers using illegal workers.

EU close to roaming charge deal [→]
EU member states and MEPs reach a preliminary deal on cutting mobile telephone roaming charges.

Iran 'steps up nuclear work' [→]
Efforts to halt Iran's nuclear programme have been overtaken by events, the head of the IAEA says.

Israel Jerusalem policy condemned [→]
The international Red Cross says Israel is violating international law in Jerusalem, in a leaked confidential report.

Many killed in Pakistan bombing [→]
A powerful bomb blast in a hotel in the Pakistani city of Peshawar kills at least 24 people, police say.

New doubt cast on Woolmer murder [→]
Pakistan cricket coach Bob Woolmer was not strangled, media reports say, citing a UK investigation.

Salmond to become first minister [→]
SNP leader Alex Salmond is set to be elected first minister of Scotland, following his party's election success.

Reuters agrees to Thomson buyout [→]
UK media company Reuters agrees to a buyout worth about £8.7bn from financial data firm Thomson.

Med diet 'cuts lung disease risk' [→]
Eating a Mediterranean diet halves risk of serious lung disease like emphysema and bronchitis, a study suggests.

Happiness wins science book prize [→]
An exploration of how people

make themselves happy wins the prestigious Royal Society Prize for Science Books.

Free tool offers 'easy' coding [→]
A free programming tool that allows anyone to create their own animations and video games launches.

Stallone admits hormone charges [→]
Actor Sylvester Stallone pleads guilty to bringing a banned human growth hormone into Australia.

The Green Room [→]
"Inquisitive and determined young minds" are needed to solve the environmental problems facing the world.

3 wissenschaft.de

aktuelle Nachrichten aus den Bereichen Medizin, Kulturwissenschaften, Geowissenschaften, Naturwissenschaften, Technik/Umwelt und Weltraum

Der Ofen-Kühlschrank-Generator [→]
Britische und amerikanische Forscher haben ein Multifunktionsgerät zum Kochen, Kühlen und zur Stromerzeugung entwickelt. Das SCORE genannte Gerät wird mit Holz oder anderen lokal verfügbaren Biokraftstoffen betrieben und soll die Lebensbedingungen von Menschen in Entwicklungsländern verbessern. Der Apparat ist so konzipiert, dass er für die einfache Bevölkerung erschwinglich ist. Nach Angaben der Wissenschaftler um Projektleiter Paul Riley von der Universität von Nottingham soll SCORE in etwa fünf Jahren auf den Markt kommen. ...

Eine Durchfallimpfung, die auf der Zunge schmilzt [→]
Amerikanische Studenten haben

die Grundlagen für ein System entwickelt, mit dem selbst Säuglinge einfach und schmerzlos gegen Durchfallerkrankungen geimpft werden können: Der Impfstoff wird in ein hauchdünnes folienartiges Blättchen eingebaut, das auf die Zunge gelegt wird und sich bei Kontakt mit dem Speichel so schnell auflöst, dass das Kind den Wirkstoff automatisch schluckt. Zusätzlich wird der Impfstoff mit einer Substanz beschichtet, die ihn widerstandsfähig gegen die Säure des Magens macht und dafür sorgt, dass er erst im Dünndarm aktiv wird. Ein solches System eigne sich sehr gut für den Einsatz in Entwicklungsländern, wo besonders viele Kinder an Durchfallerkrankungen sterben, erklärt das Entwicklerteam um Christopher Yu. Fertig ist es allerdings noch nicht: Die Entwickler müssen noch eine Möglichkeit finden, Blättchen und Beschichtung mit dem Impfstoff zusammenzubringen. ...

Dunkle Materie im Ring [→]
Ein internationales Astronomenteam hat mit dem Weltraumteleskop "Hubble" in einem fünf Milliarden Lichtjahre entfernten Galaxienhaufen einen Ring Dunkler Materie entdeckt. Der Ring mit einem Durchmesser von 2,6 Millionen Lichtjahren entstand bei dem gewaltigen Zusammenstoß zweiter Galaxienhaufen und weist eine wellenartige Struktur auf wie ein Teich, in den ein Stein gefallen ist. Die Forscher um Myungkook Jee von der Johns-Hopkins-Universität in Baltimore erhoffen sich von der Entdeckung neue Erkenntnisse über die unsichtbare Dunkle Materie, die Astronomen und Physikern seit langem Rätsel aufgibt. ...

Die fünfte Naturkraft [→]
Die Dunkle Materie, die gängigen Theorien zufolge für die Stabilität von Galaxien notwendig ist, könnte möglicherweise einer bisher nicht beschriebenen, fundamentalen Naturkraft unterworfen sein. Das glauben zwei Physiker der New York University, die Anzeichen der Kraft durch eine genaue Studie des Zusammenpralls zweier Kugel-

sternhaufen entdeckt haben wollen. Sollte sich die Theorie der Forscher durch weitere kosmologische Untersuchungen bestätigen, würde das Gebäude der Physik einen beträchtlichen Anbau benötigen. ...

4 ScienceDaily Headlines

Daily headlines about discoveries in the physical and life sciences, health and medicine, the environment, and technology, from the world's leading universities and research centers.

Parabolic Trough Solar Collector Systems Made More Energy Efficient [→]
A mirror alignment measurement device may soon make one of the most popular solar collector systems, parabolic troughs, more affordable and energy efficient.

Simple Equations Track Listeria Trails [→]
A simple and robust mathematical description of the movement of Listeria monocytogenes yields insights into the mechanisms that drive this pathogenic bacterium.

New Unattended Water Sensor Capable Of 24/7 Detection Of Toxins, Bacteria In Water Supplies [→]
Scientists develop a method for constantly monitoring water for biological pathogens including biotoxins, bacteria, viruses, and protozoa. Sandia's unattended water sensor has successfully undergone testing at a large Bay Area water utility for more than a year and, just recently, has been deployed to a municipal water station in Arizona for additional observation and adjustments.

Coral Reefs May Be More Resilient Than Expected [→]
Coral reef bleaching, believed to be one of the detrimental effects of climate change, may receive a welcomed "buffer" through effec-

tive local management, according to scientists who are recording the long-term recovery of coral reefs.

Marijuana Vaporizer Provides Same Level Of THC, Fewer Toxins, Study Shows [→]
A smokeless cannabis-vaporizing device delivers the same levels of THC, the active therapeutic chemical, with the same biological effects as smoking cannabis without the harmful toxins created by burning cannabis, according to University of California researchers.

Nuclear Magnetic Resonance Advance Relies On Microscopic Detector [→]
Detecting the molecular structure of a tiny protein using nuclear magnetic resonance (NMR) currently requires two things: a million-dollar machine the size of a massive SUV, and a large sample of the protein under study. Now, MIT researchers report the development of a radically different approach to NMR. The new highly sensitive technique, which makes use of a microscopic detector, decreases by several orders of magnitude the amount of protein needed to measure molecular structure.

New Way To Calculate Speed Of Bacterial Sex Developed [→]
By building upon previous studies of bacteria, researchers have created a formula that quantifies bacterial gene transfer under natural conditions. Scientists believe that these findings will help to increase knowledge about the rates of potentially beneficial and harmful bacterial adaptation in the environment.

Biotechnology Solves Debate Over Origin Of European Potato [→]
For years, researchers have debated the birthplace of the European potato. Recent genetic studies revealed that the earliest known landraces of the European potato contain both Andean and Chilean molecular markers. These findings may change current breeding programs which focus solely on the Andean landraces and not the Chilean landraces, according to scientists.

Brazil Demonstrating That Reducing Tropical Deforestation Is Key Win-win Global Warming Solution [→]
During years of severe drought, tropical rainforest fires can double emissions from tropical forests, according to scientists. Now, an international team of forest and climate researchers has found that halving deforestation rates by mid-century would account for 12 percent of total emissions reductions needed to keep concentrations of heat-trapping gases in the atmosphere at safe levels. This work is profiled in a recent issue of Science.

New Tool To Shed Light On, Improve Teen Mental Health Services [→]
Can you imagine an archer trying to improve her accuracy by practicing blindfolded, never seeing how close she was to hitting her target? Until now, those treating teens with mental health concerns were in the same position as that blindfolded archer, providing services with no objective and systematic feedback about the effects. A new tool will remove that blindfold.

Marine Reserves Could Save Coral Reefs [→]
Marine reserves have already proved to be a successful way of protecting marine life against commercial fishing. New research shows for the first time how marine reserves could also help in the recovery of corals, which are already suffering the effects of climate change and over-fishing.

Deep Sounds Scare Fish Away From Turbines That Could Kill Them [→]
Fish migrating downstream take quite a risk if their rivers are bordered by industries that use large amount of water for cooling or hydroelectric purposes. Water intakes generally open in the direction of the main current channel of the river, resulting in migrating fish being pulled in. Some die of asphyxiation on the filters, others by a lethal contact with turbine blades. This impact has greatly contributed to the decline of migratory species of fish,

such the European eel and the Atlantic salmon, both important as fishery resources.

Full-term, Low-birth-weight Babies At Significantly Greater Risk For Early Respiratory Symptoms [→]
Through age 5, children born at full term with low birth weight show significantly greater risk for developing respiratory symptoms, including wheezing, coughing and pulmonary infections, according to a large longitudinal study on birth weight and development. The children's symptoms grew worse if they were exposed to environmental tobacco smoke.

Unfair Treatment Boosts Heart Attack Risk [→]
Unfair treatment in life boosts a person's chances of having a heart attack, suggests new research.

Boiling Broccoli Ruins Its Anticancer Properties, According To Study [→]
Researchers have found that the standard British cooking habit of boiling vegetables severely damages the anticancer properties of many Brassica vegetables such as broccoli, Brussel sprouts, cauliflower and green cabbage.

US Continues To Lag On Health Care, According To New International Comparison [→]
The US health care system ranks last compared with five other nations on measures of quality, access, efficiency, equity and outcomes, in the third edition of a Commonwealth Fund report analyzing international health policy surveys. While the US did well on some preventive care measures, the nation ranked at the bottom on measures of safe care and coordinated care.

Childhood Environment Influences Reproductive Function [→]
Female reproductive function is influenced by childhood environment, according to a new study. This suggests there is a critical window of time from about 0-8 years of age that determines the rate at which girls physically mature and how high their repro-

ductive hormone levels reach as adults.

'Super-fridge' To Help Improve Lives In Developing Countries [→]
The Stove for Cooking, Refrigeration and Electricity (SCORE) project aims to work with rural communities in Africa and Asia, where access to power is limited, to develop a versatile domestic appliance powered by biomass that will significantly improve health and welfare.

Breastfeeding Duration Rates Higher For Infants Born In Baby-friendly Hospital [→]
Being born in a Baby-Friendly hospital gives babies the best possible chance of breastfeeding to six months. This is particularly true for low-income populations and for families from backgrounds that traditionally have low breastfeeding rates.

Thale Cress Goes On The Defensive [→]
Thale cress has a complicated defence technique against insects and microorganisms that use the plant as a source of food. The plant hormone jasmonic acid plays a major role during the immune response against insects and pathogens. Dutch researcher Vivian van Oosten has demonstrated that this does not necessarily lead to the control of the same genes during the various interactions.

Walk Like An Egyptian – Or A Roman: Experience What The Past Really Looked Like [→]
Computer scientists and cultural heritage researchers are assessing whether today's increasingly sophisticated 3-D computer technology can be combined with the most recent historical evidence to produce significantly improved visual reconstructions of churches, palaces and other ancient sites.

Alzheimer's Weight Gain Initiative Also Improved Patients' Intellectual Abilities [→]
Swedish researchers have discovered that simple steps like changing the way food is served and how staff are dressed can improve weight gain in

Alzheimer's patients. Patients who gained weight also showed greater intellectual abilities.

US Naval Academy-built Satellite To Carry NASA Experiments [→]
A partnership between NASA and the US Naval Academy is offering students real-world experience. During 2007 and 2008, students at the U.S. Naval Academy in Annapolis, Md., will build a satellite called "MidSTAR-2" through a US Department of Defense program that will carry four experiments into space in 2011 to look at different parts of Earth's atmosphere, gamma rays and solar winds.

The Yin And The Yang Of B-cell Development [→]
A new article in Genes & Development reveals how a protein called Yin Yang 1 regulates early B cell development.

Vast Regions Of West Antarctica Melted In Recent Past, NASA Finds [→]
A team of NASA and university scientists has found clear evidence that extensive areas of snow melted in west Antarctica in January 2005 in response to warm temperatures. This was the first widespread Antarctic melting ever detected with NASA's QuikScat satellite and the most significant melt observed using satellites during the past three decades. The affected regions encompass a combined area as big as California.

Saliva Clue To Chronic Bullying [→]
Hormones in children's saliva may be a biological indicator of the trauma kids undergo when they are chronically bullied by peers, according to researchers who say biological markers can aid in the early recognition and intervention of long-term psychological effects on youth.

Call Her Isoke: Louisville Zoo's Baby Pygmy Hippo Receives Her Name [→]
The Louisville Zoo's female baby pygmy hippo has heard her name for the first time – Isoke (ee SO keh), which is African for satisfying gift. There are only 50 pygmy

hippos in 22 locations in North America and births are rare.

Vertical Workstations Could Help Obese Shed 30 Kilos A Year [→]
Vertical workstations, incorporating a treadmill, could help obese employees shed up to 30 kg in weight every year, suggests a small new study.

"Kein Unterschied, wer die Operationen durchführt"

In Afghanistan wächst nach den vielen zivilen Opfern bei Militäreinsätzen die Wut. Die Skepsis gegenüber allen Ausländern werde größer, stellt ein UN-Sprecher fest. Die Militärs sollten überlegen, wie sie ihre Strategie ändern könnten, fordern Experten.

Von Christoph Heinzle, ARD-Hörfunkstudio Neu Delhi, zurzeit Kabul

[Bildunterschrift: Afghanistans Präsident Karsai]

Hamid Karsai wagt sich in die Höhle des Löwen. An diesem Mittwoch besucht der afghanische Präsident den Bezirk Shindand in der westlichen Provinz Herat. Ende April starben durch eine US-Militäroperation hier mehr als 50 Zivilisten, nahezu die Hälfte von ihnen Frauen und Kinder. Die Dorfbewohner hatten offenbar gegen Hausdurchsuchungen der Amerikaner revoltiert. Karsai reagierte auf das Blutbad mit Wut. Zivile Opfer seien nicht länger hinnehmbar, schimpfte er und forderte mehr Vorsicht der westlichen Truppen. Denn Shindand war zwar einer der schwersten, längst aber nicht der einzige Vorfall dieser Art. Mehr als 130 Zivilisten starben bei westlichen Militäroperationen seit März - niedrig geschätzt.

Hier in Kabul wächst die Kritik am harten Vorgehen vor allem der US-Militärs. Viele sehen das Vertrauen der Afghanen in die internationale Gemeinschaft rapide zur Neige gehen. So sagt UN-Sprecher Dan McNorton: "Das Beispiel des Bezirks Shindand zeigt, dass solche Vorfälle natürlich Auswirkungen darauf haben, wie das Militär und andere internationale Organisationen in Afghanistan gesehen werden. Die militärischen Kräfte in Afghanistan müssen ihr Möglichstes tun, damit so etwas in Zukunft nicht mehr vorkommt."

Trennung Isaf und Anti-Terrorkoalition?

Kaum mehr erkennbar ist mittlerweile die Trennlinie zwischen der UN-mandatierten Schutztruppe Isaf und der US-geführten Anti-Terrorkoalition. Beide stehen unter amerikanischem Befehl. Manche Offiziere und Einheiten sind gleichzeitig beiden unterstellt. Beide Truppen operieren in denselben Regionen. Und nach Zwischenfällen wie dem gestrigen Bombardement von Taliban in der südafghanischen Unruheprovinz Kandahar wollen beide nicht wissen, wessen Operation das gewesen ist. Für die Einheimischen verstärkt das die Skepsis gegenüber "den Ausländern". "Die afghanische Bevölkerung unterscheidet nicht", so UN-Sprecher McNorton, "wer diese Operationen durchführt, wie einige von uns internationalen Kräften das tun." [Bildunterschrift: Stand: Februar 2007]

Innerhalb der Nato ist das harte Vorgehen der Amerikaner inzwischen längst Thema. Anfang der Woche äußerte nicht nur Bundesverteidigungsminister Franz Jung Kritik an den US-Operationen, sondern auch Nato-Generalsekretär Jaap de Hoop Scheffer. Dabei dürfe es nicht allein um die Zivilopfer gehen, meint Ursula Koch-Laugwitz. So kämen auch etwa 300 afghanische Polizisten pro Monat bei den Kämpfen gegen militante Regierungsgegner ums Leben, sagt die Afghanistan-Chefin der Friedrich-Ebert-Stiftung in Kabul: "Jeder Tag mit zweistelligen Todesmeldungen reduziert das Verständnis für diesen Krieg, aber auch drastisch die Akzeptanz für internationales Engagement. Man wird sich überlegen müssen, ob es Schritte gibt, die militärische Auseinandersetzung, die ja offensichtlich unvermeidbar ist, so zu verändern, dass die Anzahl von Opfern, ob sie nun Uniform tragen oder nicht, insgesamt reduziert werden, auf allen Seiten."

Sicherheit und Stabilität sollen das Ziel sein

Von Innehalten, von einer Überprüfung des Gesamtkonzepts

für Afghanistan ist angesichts der hohen Opferzahlen hier in Kabul nun immer häufiger die Rede. Und von mehr zivilen Projekten anstelle zusätzlicher Truppen. Mit Verweis auf Berechnungen für den internationalen zivil-militärischen Einsatz sagt Ursula Koch-Laugwitz: "Für jeden Dollar oder Euro, der hier aufgewendet wird, gehen 60 Prozent für militärischen Schutz raus. Solange die Quote so schlecht ist, muss man sich auch politisch überlegen, was man anders machen könnte, nicht nur militärisch."

Doch die westlichen Militärs und Verteidigungspolitiker stehen zunächst am meisten unter Druck. Sie müssen zeigen, ob stimmt, was der Nato-Generalsekretär vor einer Woche bei einem Pakistan-Besuch über den Afghanistan-Einsatz sagte: "Wir sind nicht gekommen, um so viele Menschen wie möglich zu töten", so de Hoop Scheffer, "sondern um Sicherheit und Stabilität zu ermöglichen."

[←]

[←]

WirtschaftProtest gegen Auslagerung von 50.000 Stellen

Arbeitskampf bei der Telekom geht weiter

Grafik: Streikende Telekom-Mitarbeiter bei Protestkundgebung in Freiburg]

In der Auseinandersetzung mit der Deutschen Telekom hat die Gewerkschaft ver.di für heute erneut tausende Beschäftigte zum Arbeitskampf aufgerufen. Allein in Berlin und Brandenburg rechnet die Gewerkschaft mit mehr als 2.500 Streikenden, in Nordrhein-Westfalen sollen es mindestens 2000 werden. Der Landesbezirk Nord kündigte an, dass einzelne Betriebe auch am Himmelfahrtstag und am Wochenende bestreikt würden.

Gestern war in dem Tarifstreit der Tonfall deutlich schärfer geworden. Die Gewerkschaft warf dem Konzern vor, streikende Mitarbeiter mit Drohungen und Geldprämien zur Rückkehr an ihren Arbeitsplatz bewegen zu wollen. So gebe es in Nordrhein-Westfalen mehrere

Mitarbeiter, denen mit Abmahnungen und sogar mit fristlosen Kündigungen für den Fall gedroht worden sei, dass sie sich den von der Telekom einseitig angeordneten Notdiensten verweigerten, sagte ver.di-Sprecher Günter Isemeyer. Auch kursierten SMS an Beschäftigte, in denen es laut Gewerkschaft wörtlich heißt: "Hallo Kollegen, wer ab morgen wieder seinen Dienst antritt, bekommt täglich 50 Euro, so lange gestreikt wird." Dies sei für einen Weltkonzern ein keinesfalls angemessenes Verhalten, kritisierte der Gewerkschaftssprecher.

Dossier: **Telekom in der Dauerkrise**Der Weltkonzern kämpft an vielen Fronten. Hintergründe, Analysen, Porträts [mehr]

Deutsche Telekom: Die Deutsche Telekom AG ist der größte Anbieter im Bereich Telekommunikation in Europa und der drittgrößte weltweit. Der Konzern ist in vier Geschäftsfelder untergliedert: T-Com steht für das Breitband/Festnetz. T-Mobile International für das Geschäftsfeld Mobilfunk. T-Systems ist der Anbieter von IT- und Telekomdienstleistungen. Konzernzentrale & Shared Values übernimmt strategische Funktionen.
Die Telekom stritt die Vorwürfe ab: "Es gibt keinen organisierten SMS-Versand mit Streikbrecher-Prämien", sagte Sprecher Christian Schwolow. Er warnte vor Überreaktionen und appellierte an ver.di, "die Kirche im Dorf zu lassen". Im Konzern gebe es lediglich eine grundsätzliche Regelung, wonach Mitarbeiter bei außergewöhnlichen Belastungen mit Einmalzahlungen belohnt würden. "Und natürlich haben wir durch die Streiks eine Situation, in der auf arbeitende Mitarbeiter einiges an Mehrarbeit zukommt."

Callcenter und Kundendienst betroffen

Die Streiks und Proteste gegen den umstrittenen Konzernumbau wurden noch einmal ausgeweitet. Rund 16.000 Service-Beschäftigte legten nach Angaben der Gewerkschaft bundesweit ihre Arbeit nieder, um den Druck auf die Telekom

zu erhöhen. Sie verlangen ein besseres Angebot bei der umstrittenen Auslagerung von 50.000 Service-Kräften in Unterfirmen. Die Beschäftigten sollen dort neun Prozent weniger verdienen und 38 statt 34 Stunden pro Woche arbeiten. Tarifverhandlungen über den Konzernumbau waren nach fünf Runden gescheitert.

Telekom-Streik: **Was kommt auf die Verbraucher zu?**Wichtige Fragen und Antworten zum Telekom-Streik. [mehr]Bestreikt wurden erneut Callcenter, technische Kundendienste und Bereiche der technischen Infrastruktur. Einem Telekom-Sprecher zufolge müssen Kunden deshalb weiter mit Verzögerungen bei der Behebung von Störungen rechnen. Zudem müssten Termine für die Montage von Anschlüssen verschoben werden.

Keine Signale für Gesprächsbereitschaft

"Wir machen so lange weiter, bis die Telekom endlich einlenkt", sagte Streikleiter Ado Wilhelm. Es gebe bislang noch keine Anzeichen für neue Gespräche mit der Konzernführung, sagte er. Am Mittwoch sollen laut Gewerkschaft erneut rund 15.000 Telekom-Mitarbeiter - jeder Zehnte in Deutschland - in den Ausstand treten.

Verständnis in der Bevölkerung

Laut einer repräsentativen Forsa-Umfrage im Auftrag des Magazins "Stern" haben die Verbraucher trotz möglicher Beeinträchtigungen große Sympathie für die Streikenden: Mehr als drei Viertel der rund 1000 Befragten äußerten Verständnis für den Ausstand.
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AuslandChirac verabschiedet sich nach zwölf Amtsjahren

"Mes chers compatriotes!"

Nach zwölf Jahren im Amt hat sich Präsident Chirac in einer Ansprache noch einmal an das französische Volk gewandt. Er scheide mit Stolz und

habe "großes Vertrauen in die Zukunft", so Chirac. Seinem Nachfolger Sarkozy wünschte er viel Glück.

Von Angela Ulrich, ARD-Hörfunkstudio Paris

Irgendwie wird das fehlen: "Mes chers compatriotes…", also "Meine lieben Mitbürger..." - dieser Auftakt jeder Ansprache von Jacques Chirac, oft begleitet von Stirnrunzeln und ausladender Handbewegung. Gestern Abend sprach Chirac ein letztes Mal zu seinem Volk. Mit dem Stolz, seine Pflicht erfüllt zu haben, scheide er aus dem Amt, sagte der 74-Jährige und forderte die Franzosen zu Geschlossenheit auf: "Eine Nation, das ist eine Familie, mit einer engen Verbindung, die uns eint, die uns schützt, die uns vorwärts bringt. Bleiben Sie immer vereint und solidarisch!" Grafik: Abschied nach zwölf Jahren im Amt: Jacques Chirac bei seiner TV-Ansprache]

Zwölf Jahre war Chirac im Amt. Den Franzosen fällt zu ihrem scheidenden Staatschef vor allem dies ein: "Das wirklich Gute, was er gemacht hat, war gegen den Irak-Krieg zu sein." Und zwei weitere Franzosen: "Positiv fand ich das mit dem Irak - sonst nichts", "er war außenpolitisch gut, vor allem in Sachen Krieg gegen Irak!"

Konflikten ausgewichen

Der Tiefpunkt in der Amtszeit von Chirac war dagegen das Nein der Franzosen zur EU-Verfassung. Auch innenpolitisch bleibt wenig vom Präsidenten in Erinnerung, der den Konflikt scheute und oft zurückwich. Jetzt will Chirac eine Stiftung gründen und sich vor allem für den Klimaschutz engagieren: "Ab morgen werde ich meinen Kampf für einen Dialog der Kulturen und eine nachhaltige Entwicklung fortsetzen, und dabei meine ganze Erfahrung und meinen Willen zur Aktion einbringen."

Bilder: **Jacques Chirac**Bilder seiner Karriere [mehr]

Seinem Nachfolger wünschte Chirac viel Glück. Und Nicolas Sarkozy hat auf diesen Segen nicht erst gewartet. Schon seit

Tagen feilt er an einer Ministerriege. Auch Mitte- und Linkspolitiker sollen darin vertreten sein, wie der Gründer der Hilfsorganisation "Ärzte ohne Grenzen", Bernhard Kouchner, als möglicher Außenminister. Denn, so machte Sarkozy immer wieder klar: "Ich wollte die ideologischen Gräben überwinden, die keinen Sinn mehr machen. Wenn wir des Vertrauens der Franzosen würdig sein wollen, dann müssen wir uns erweitern - statt uns zu verengen. Die Botschaft der Franzosen heißt, zu vereinen, statt sich zu verschließen!"

Übergabe des Geheimcodes für Atomwaffen

Heute um elf Uhr empfängt Jacques Chirac seinen Nachfolger Nicolas Sarkozy auf den Stufen des Elysee-Palastes. Für eine halbe Stunde werden sich beide zurückziehen, dabei übergibt Chirac auch den Geheimcode für die Atomwaffen an Sarkozy. 21 Kanonenschüsse werden für den neuen Präsidenten vom Invalidendom her abgegeben. Sarkozy wird die Kette der Ehrenlegion von seinem Vorgänger übernehmen und seine erste Rede als Staatschef halten. Dann geht es die Champs Elysees hinauf, um einen Kranz unter dem Triumphbogen abzulegen. Anschließend will Sarkozy von den Deutschen ermordete Widerstandskämpfer ehren. Um sich dann den deutsch-französischen Beziehungen der Gegenwart und Zukunft zuzuwenden: Noch am Nachmittag fliegt Sarkozy zu Bundeskanzlerin Angela Merkel nach Berlin.

Was Franzosen von ihm erwarten? "An das Wunder, auf das viele hoffen, glaube ich nicht. Dass er sich einfach anstrengt und sein Bestes gibt - das wäre schon gut!"
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AuslandEinigung kurz vor Ende der Frist

Kostunica als serbischer Regierungschef bestätigt

Das Parlament in Belgrad hat die neue serbische Regierung

gebilligt. Die Bestätigung der Koalition aus drei prowestlichen Parteien erfolgte mit 133 gegen 106 Stimmen. Das Votum fand eine halbe Stunde vor Mitternacht statt, der letzten Frist nach der Wahl vom 21. Januar.

Von Eberhard Nembach, ARD-Hörfunkstudio Wien

Der alte und neue serbische Regierungschef Vojislav Kostunica sprach in seiner Regierungserklärung eine deutliche Warnung aus: "Eine Anerkennung der Unabhängigkeit der Provinz Kosovo wäre eine grobe Einmischung in die inneren Angelegenheiten Serbiens." Die Zustimmung dazu lasse sich seine Regierung auch nicht durch Geschenke der EU abkaufen, so Kostunicas klare Botschaft. Die vollwertige und gleichberechtigte Mitgliedschaft Serbiens in der EU sei zwar das programmatische Ziel aller Koalitionsparteien. Eine EU-Integration dürfe aber nicht die Belohnung für Zugeständnisse in der Kosovo-Frage sein, so der Regierungschef.

[Bildunterschrift: Kurz vor Ende der Frist wird Kostunica in Belgrad doch noch in seinem Amt als serbischer Ministerpräsident bestätigt.]

Genau einen solchen Handel zu planen - Kosovo-Unabhängigkeit für Unterstützung aus Brüssel und den USA - das warf der Führer der Radikalen-Partei, Tomislav Nikolic, den neuen Koalitionären vor: "Sie wissen es sehr gut, dass einige der Staaten, mit denen Sie zusammenarbeiten, Kosovo anerkennen werden. Sie setzen eher auf die Beziehungen zu den USA, als auf die Beziehungen zu China und Russland. Ich akzeptiere, dass dies der Standpunkt dieser Regierung ist. Aber was wird geschehen, wenn die USA die Unabhängigkeit von Kosovo und Metohija ausruft? Wie wird diese Zusammenarbeit mit den USA aussehen? Und wenn die EU in ein paar Tagen sagt, dass Kosovo ein unabhängiger Staat ist, wollen wir auch weiterhin Geld dafür ausgeben, EU-Vorschriften ins Serbische zu übersetzen?"

Nikolic führt die größte Fraktion im serbischen Parla-

ment - seine Radikalen spielten gemeinsam mit den Sozialisten des verstorbenen Ex-Präsidenten Slobodan Milosevic mit ihren Muskeln im Parlament: Sie ließen die neue Koalition bis kurz vor Mitternacht zappeln, bevor es endlich zur entscheidenden Abstimmung kam. Nach Mitternacht wäre die Frist zur Regierungsbildung abgelaufen, dann hätte es in Serbien wahrscheinlich Neuwahlen geben müssen. Regierungschef Kostunica hatte sich zuletzt an die Radikalen angenähert und sogar deren Führer Nikolic für ein paar Tage zum Parlamentspräsidenten gemacht. Die Einigung mit der westlich orientierten Partei von Präsident Boris Tadic und den Wirtschaftsreformern von G17Plus kam vor allem auf Druck des Westens zustande. Auch Bundeskanzlerin Angela Merkel telefonierte mit Belgrad.

Keine Liebesheirat...

Eine Liebesheirat ist die nun doch noch zustande gekommene Belgrader Koalition jedenfalls nicht, das hatte Präsident Tadic Anfang der Woche zugegeben: "Wir sind sehr verschieden, aber ich hoffe, dass wir in dieser Regierung gemeinsame Ziele haben, die uns zu einer gemeinschaftlichen Arbeit zusammenbringen werden. Ich leugne nicht, dass es große Unterschiede gibt."

[Bildunterschrift: Ratko Mladic, aufgenommen im Jahr 1995]

Streit gab es vor allem darum, wer Armee und Sicherheitsdienste führt. Dort liegen die Schlüssel zur Festnahme des als Kriegsverbrecher gesuchten Ex-Generals Ratko Mladic. Weil er immer noch untergetaucht ist und in Serbien vermutet wird, hat Brüssel die Verhandlungen über eine Annäherung Serbiens an die EU auf Eis gelegt. Letzte Nacht durchsuchten Sicherheitskräfte in Belgrad ein Hotel auf der Suche nach Mladic - das war wohl ein Signal an Brüssel. Heute wird Erweiterungskommissar Olli Rehn erwartet. Er dürfte die neuen Koalitionäre beglückwünschen, und er hat ein Abkommen über Visa-Erleichterungen für Ser-

ben im Gepäck. Auch eine Wiederaufnahme der Verhandlungen mit der EU scheint jetzt wieder möglich - die serbisch-europäische Eiszeit ist zuende. Vorerst.
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InlandGesetzentwurf der Justizministerin

Kabinett berät über die Kronzeugenregelung

[Bildunterschrift: Wer aussagt, kann künftig wieder auf kürzere Haftstrafen hoffen.]
Das Bundeskabinett berät heute über eine neue Kronzeugenregelung. Die Bundesregierung will die bisher hauptsächlich im Kampf gegen den Drogenhandel eingesetzte Regelung erheblich ausweiten. Danach können künftig wieder mehr Kriminelle und Terroristen, die zur Aufklärung oder Verhinderung von Straftaten beitragen, Strafmilderung oder Straffreiheit erhalten.

Gesetz könnte schon im Frühjahr 2008 in Kraft treten

Einen entsprechenden Gesetzentwurf stellte Bundesjustizministerin Brigitte Zypries gestern in Berlin vor. Die Regelung soll für jene mittelschweren und schweren Straftaten gelten, bei denen auch Telefonüberwachung angeordnet werden kann. Das betrifft etwa den Bereich der organisierten Kriminalität, krimineller oder terroristischer Vereinigungen sowie Wirtschaftskriminalität oder Rauschgift- und Menschenhandel. Bislang wurden Strafrabatte im Tausch gegen Informationen hauptsächlich bei Drogendelikten gewährt. Das Kabinett berät am Mittwoch über den Gesetzentwurf, der nach Angaben von Zypries im kommenden Frühjahr in Kraft treten könnte.

Die Grünen kritisierten den neuen Entwurf als Vorlage, um mit Straftätern schmutzige Deals zu machen. Die FDP findet das Gesetz zu weitgehend. "Damit verliert die Kronzeugenregelung ihren Ausnahmecharakter", erklärte Parlamentsgeschäftsführer Jörg van

Essen.

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"Wir sind nicht mehr so großzügig im Strafrabatt"

Der mögliche Strafnachlass wird allerdings eingeschränkt. "Wir sind nicht mehr so großzügig im Strafrabatt", sagte Zypries. Hat ein Kronzeuge lebenslänglich zu erwarten, darf die Strafe allenfalls auf zehn Jahren gemildert werden. Ein kooperationswilliger Mörder kann also durch seine Aussage nicht frei kommen. Von Strafe absehen darf das Gericht nur, wenn der aussagewillige Täter nicht mehr als drei Jahre Gefängnis zu erwarten hätte.

Die alte Kronzeugenregelung hielt Rot-Grün für unbrauchbar und ließ sie nach zehn Jahren 1999 auslaufen. Nur bei Drogen- und Geldwäschedelikten gab es weiterhin eine "kleine Kronzeugenregelung". Die Union wollte schon lange eine Wiedereinführung. Die Berufsverbände von Richtern, Staatsanwälten und Rechtsanwälten hatten sich bislang immer vehement gegen eine neue Kronzeugenregelung ausgesprochen.

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AuslandPalästinensische Hamas greift Israel an

20 Verletzte nach Raketeneinschlägen in Sderot

[Bildunterschrift: Eine Frau wurde bei einem Raketeneinschlag schwer verletzt.]
Bei Raketenangriffen der Hamas auf die israelische Stadt Sderot sind nach jüngsten Angaben 20 Israelis verletzt worden, eine Frau schwer. Auch am späten Abend schlugen erneut mehrere Raketen in der Stadt ein, unter anderem wurde ein Schulgebäude getroffen. Angesichts der angespannten Sicherheitslage beriet Verteidigungsminister Amir Perez mit ranghohen Militärs über das weitere Vorgehen.

Medien hatten berichtet, Israel erwäge eine militärische Reaktion auf die neuen Angriffe der Hamas. Die Luftwaffe habe als Warnung auf offene Gebi-

ete im Gaza-Streifen geschossen. Später hieß es allerdings, Israel wolle trotz des massiven Raketenbeschusses vorerst nicht militärisch reagieren. Wie die israelische Tageszeitung "Haaretz" unter Berufung auf Regierungskreise berichtete, habe sich das israelische Sicherheitskabinett zur Zurückhaltung entschlossen.

Kämpfe zwischen Hamas und Fatah gehen weiter

Zuvor waren bei neuen Kämpfen zwischen den Palästinenserorganisationen Hamas und Fatah, die gleichzeitig eine Einheitsregierung bilden, im Gaza-Streifen mindestens elf Menschen getötet worden. Zehn der Getöteten waren Polizisten, die der Fatah-Organisation des Palästinenserpräsidenten Machmud Abbas angehörten.

Grafik: Mehrere Fatah-Kämpfer starben, als ihr Auto beschossen wurde]

Die Gefechte waren am Morgen wieder ausgebrochen, nachdem ein Hamas-Anführer einen Kontrollpunkt der Polizei durchbrechen wollte und erschossen wurde. Hamas-Kämpfer griffen daraufhin zwei Polizeiposten und einen Fahrzeugkonvoi an. Ein Fatah-Sprecher erklärte, Gardisten seiner Organisation seien in einen Hinterhalt der Hamas geraten und dort "kaltblütig ermordet" worden. Seit Sonntag sind bei dem neuen Ausbruch der Gewalt in den Palästinensergebieten 21 Palästinenser getötet worden.

EU ruft zur Mäßigung auf

Angesichts der schweren Gefechte rief der EU-Außenbeauftragte Javier Solana alle Seiten zur Mäßigung auf. "Die Lage ist sehr ernst", erklärte er nach einem Treffen mit dem palästinensischen Außenminister Siad Abu Amr in Brüssel. Vorwürfe der Arabischen Liga, die EU habe mit ihrem Finanzboykott gegen die palästinensische Regierung das Chaos in den Autonomiegebieten verschärft, wies Solana zurück. Abu Amr erklärte indes, mit einer Änderung ihrer Politik könnte die EU "den Palästinensern helfen,

ihre Probleme zu lösen und die chaotische Sicherheitslage besonders in Gaza zu beenden". [←]

[←]
WirtschaftTreffen der Weltbank-Führungsspitze

Druck auf Wolfowitz wächst immer weiter

[Bildunterschrift: Weltbankchef Paul Wolfowitz sagt vor Exekutivrat aus]
Von den sieben führenden Industrieländern (G-7) unterstützen offenbar nur noch die USA und Japan den umstrittenen Weltbank-Präsidenten Paul Wolfowitz. Lediglich die beiden Staaten hätten sich in einer Telefonkonferenz für den Verbleib des ehemaligen US-Vizeverteidigungsministers an der Spitze der internationalen Entwicklungshilfeorganisation ausgesprochen, verlautete nach einem Bericht der Nachrichtenagentur Reuters aus europäischen Weltbankkreisen. An dem Gespräch nahmen Vertreter aus Deutschland, Frankreich, Italien, Großbritannien, Kanada, Japan und den USA teil.

Damit zeichnete sich immer stärker ab, dass Wolfowitz kaum noch zu halten sein dürfte. Das Direktorium der Weltbank soll jetzt darüber beraten, ob ihr Präsident seine Führungsrolle weiterhin ausfüllen kann. Kurz vor dem Treffen der Weltbank-Führungsspitze stärkte die US-Regierung Wolfowitz noch einmal den Rücken. Der Sprecher des Präsidialamts, Tony Snow, räumte zwar ein, dass der ehemalige US-Vizeverteidigungsminister einen Fehler gemacht habe, das sei aber kein Grund ihn zu feuern.

Der Weltbank-Chef steht wegen der Beförderung seiner Lebensgefährtin und einer damit verbundenen Gehaltserhöhung seit längerem massiv in der Kritik und verlor zuletzt immer mehr Rückendeckung. Am Montag bestätigte ein Ausschuss der Entwicklungshilfeorganisation, dass Wolfowitz in der Angelegenheit vertragswidrig gehandelt habe. Er habe eigene Interessen über die der Bank gestellt.

EU-Staaten fordern "starken Weltbankpräsidenten"

[Bildunterschrift: Wieczorek-Zeul empfiehlt Wolfowitz freiwilligen Rücktritt]
Die EU-Staaten hatten zuvor bereits den Druck erhöht und "einen starken Weltbankpräsidenten" verlangt, um weiterhin Milliardensummen für die Entwicklungshilfe der Weltbank zur Verfügung zu stellen. Dies äußerte die deutsche Entwicklungsministerin Heidemarie Wieczorek-Zeul nach einem Treffen mit ihren Amtskollegen in Brüssel.

Sie verwies auf laufende Verhandlungen über die finanzielle Ausstattung der zur Weltbank gehörenden International Development Association (IDA). Die IDA versorgt vor allem die ärmsten Länder der Welt mit Entwicklungshilfe. Zusätzlich ist sie für den Schuldenerlass zuständig. Es gehe bei den Verhandlungen um einen hohen Betrag zwischen 25 bis 30 Milliarden Dollar. Die Ministerin erklärte, "dass es eines starken Weltbankpräsidenten bedarf, um diese Frage im Interesse der Entwicklungsländer zu regeln und die Mittel zu mobilisieren".
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KulturAuszeichnung mit 6000 Euro dotiert

Theodor-Wolff-Preis für sechs Journalisten

[Bildunterschrift: Sechs Zeitungsjournalisten werden mit dem Theodor-Wolff-Preis ausgezeichnet]
Der rennomierte Theodor-Wolff-Preis der deutschen Zeitungen geht in diesem Jahr an sechs Journalisten. Die mit jeweils 6.000 Euro dotierten Auszeichnungen in der Sparte "Allgemeines" erhalten Sebastian Glubrecht ("Süddeutsche Zeitung" - Magazin) sowie Astrid Geisler ("taz - die tageszeitung"). Glubrecht habe in seinem Artikel "Bis dass der Tod euch scheidet" berührend und diskret bei einem alten Ehepaar einen Fall von Sterbehilfe aus großer Liebe nachgezeichnet. Geisler schreibt in ihrem Beitrag "Das vergessene

Land" über Neonazis in Ostvorpommern.

Den Preis in der Kategorie Leitartikel/Kommentar/Essay erhält Nikolaus Blome für seinen Beitrag "Warum uns Gerhard Schröder fehlt" ("Die Welt"), in dem der Autor laut Jury frech und nah am Leser den Ursachen für das Gefühl der Langeweile in der aktuellen Politik nachspürt.

Christoph Wöhrle und Marlon Gego bekommen den Preis in der Kategorie Lokales. Wöhrle ("Berliner Morgenpost") schaute in seinem Artikel "Doktor Fastfood und Mister Dschihad" den Berlinern Muslimen auf den Teller und schrieb dabei auch über islamistische Tendenzen. Gego schilderte in seiner Reportage "Am Ende der Illusion" (Magazin der "Aachener Zeitung"/"Aachener Nachrichten") anhand einer Auseinandersetzung zwischen Kleingärtnern und Stadionbauern Probleme der Lokalpolitik.

Krause-Burger: brillante Hintergrundberichte

Der Preis für das Lebenswerk geht an die Kolumnistin Sibylle Krause-Burger, wie der Bundesverband Deutscher Zeitungsverleger weiter mitteilte. Krause-Burger begleitet nach Ansicht der Jury seit Jahrzehnten mit brillanten Porträts und Hintergrundberichten das politische und gesellschaftliche Leben in Deutschland .

Die Preise werden am 5. September bei einem Festakt in Berlin überreicht. An der Ausschreibung hatten sich 345 Journalisten beteiligt. Der Theodor-Wolff-Preis erinnert an den Chefredakteur des "Berliner Tageblatts". Er musste 1933 vor den Nazis ins französische Exil fliehen, wurde dort verhaftet und der Gestapo ausgeliefert. Er starb 1943 in Berlin.
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InlandVerfassungsschutzbericht warnt vor islamistischem Terror

Vom "Rückzugsraum" zum "Operationsgebiet"?

Vor allem aufgrund des gescheiterten Kofferbombe-

nanschlags spricht der Verfassungsschutz von "einer neuen Dimension" der Gefährdung Deutschlands - einer Entwicklung vom "Rückzugsraum" zum "Operationsgebiet" islamistischer Terroristen.

Von Gerwald Herter, BR

Das Internet hat es in sich: Es ist Kommunikationsplattform, Werbeträger, Fernuniversität und gleichzeitig auch Trainingscamp. Allerdings ist hier nicht von moderner Betriebsführung die Rede, sondern von "Islamistischem Terrorismus".

Aus Sicht von Bundesinnenminister Wolfgang Schäuble handelt es sich beim "Islamistischen Terrorismus" nach wie vor um die größte Bedrohung für die "Stabilität und Sicherheit" in Deutschland. Bei der Vorstellung des Verfassungschutzberichts 2006 warnte er jetzt sogar vor einer "neuen Qualität" terroristischer Aktivitäten.

"Direkte Ansprache" ein "beunruhigendes Novum"

[Bildunterschrift: "Neue Dimension der Gefährdung": Die beiden sichergestellten Kofferbomben]

Dabei sind aus Sicht des Verfassungsschutzes zwei Ereignisse von entscheidender Bedeutung: das missglückte, aber trotzdem aufschlussreiche "Kofferbombenattentat" vom letzten Sommer. Zudem die vor einigen Wochen aufgetauchten Videobotschaften. Eine davon richtete sich gezielt an die österreichische und die deutsche Öffentlichkeit. Diese "direkte Ansprache", so Schäuble, sei ein "beunruhigendes Novum".

Rolf Tophoven vom Essener Institut für Terrorismusforschung sagt, dass auch der Zeitpunkt der Veröffentlichung über den Absender Aufschlüsse gebe: "Das Timing damals war schon perfekt, es hing unmittelbar mit dem Entsendungsbeschluss für die Tornados nach Afghanistan zusammen. Solche Beschlüsse könnten Rechtfertigungsgründe bieten für einen terroristischen Anschlag in Deutschland." Eine neue Qualität also, obwohl Deutschland von islamistischen Vorkämpfern schon in der Vergangenheit immer wieder mal

erwähnt wurde. Darunter waren auch Vertreter der Al-Kaida-Spitze.

"Wir können durchaus Anschlagsraum werden"

Der Verfassungsschutz erinnert in seinem Bericht für 2006 ausführlich an die gescheiterten Anschläge auf Züge der Deutschen Bahn vom 31. Juli des vergangenen Jahres. Das Attentat scheiterte nur, weil die so genannten Kofferbomben fehlerhaft montiert waren. Zwei junge Libanesen gelten als Hauptverdächtige.

[Bildunterschrift: "Wir können durchaus Anschlagsraum werden": Terrorismusexperte Rolf Tophoven (Archivbild)]

Vor allem aufgrund dieses gescheiterten Anschlags spricht der Verfassungsschutz von "einer neuen Dimension" der Gefährdung Deutschlands - einer Entwicklung vom "Rückzugsraum" zum "Operationsgebiet" islamistischer Terroristen. Auch für Tophoven ist diese Schlussfolgerung zulässig: "Wir müssen uns von dem Gedanken verabschieden, Deutschland sei nur Ruheraum oder Vorbereitungsraum. Wir können durchaus, wie in Madrid 2004 oder in London im Sommer 2005, auch hier in Deutschland Anschläge erleben. Wir können durchaus Anschlagsraum werden".

Neuer Tätertyp nur schwer auszumachen

Es ist noch schwieriger geworden, die Wahrscheinlichkeit von Anschlägen vorauszusagen. "Mujahedin-Veteranen", die in Afghanistan, Bosnien oder Tschetschenien gekämpft haben, sind als Zielgruppe relativ leicht auszumachen. In London war aber eine neue Tätergeneration am Werk: "Jüngere Männer, mit islamistischem Hintergrund", so der Verfassungsschutzbericht, "die teils in europäischen Ländern geboren wurden". Tophoven beschreibt diesen Tätertyp so: "Niemand kennt sie, sie werden plötzlich, möglicherweise über das Internet, re-islamisiert, radikalisiert und basteln die Bombe oder sprengen sich in die Luft."

Angesichts mutmaßlicher

Bedrohungen in Panik oder völlige Verunsicherung zu verfallen, bringt aber gar nichts. Da sind sich Experten und Politiker absolut einig.
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AuslandChirac verabschiedet sich nach zwölf Amtsjahren

"Großes Vertrauen in die Zukunft unseres Landes"

Einen Tag vor der Amtsübergabe an Nicolas Sarkozy hat sich Staatspräsident Jacques Chirac in einer kurzen Fernsehansprache ein letztes Mal aus dem Élysée-Palast an sein Volk gewandt. Er scheide mit dem Stolz aus, Frankreich in den vergangenen zwölf Jahren als Staatschef gedient und diese Aufgabe erfüllt zu haben, sagte Chirac.

"Ich habe großes Vertrauen in die Zukunft unseres Landes", erklärte Chirac, der sich nach einer mehr als vier Jahrzehnte langen politischen Karriere künftig einer Stiftung widmen will. Er rief die Franzosen dazu auf, trotz aller Meinungsverschiedenheiten "immer einig und solidarisch" zu bleiben. "Eine Nation ist eine Familie. Dieses Band, das uns eint, ist unser höchstes Gut." Als Land der Chancengleichheit und als Motor Europas sowie des Friedens werde Frankreich Zukunft haben. Grafik: Abschied nach zwölf Jahren im Amt: Jacques Chirac bei seiner TV-Ansprache]

Ende einer 42-jährigen politischen Karriere

Für Chirac geht eine 42-jährige politische Karriere zu Ende. Vor der Präsidentschaft war er Staatssekretär, Minister, Premierminister und lange

Zeit Bürgermeister von Paris. Sarkozy wünschte er viel Glück bei dessen Aufgabe. Seinem Nachfolger werde es am Herzen liegen, "unser Land auf den Wegen der Zukunft voranzubringen", sagte Chirac, neben sich die Trikolore und die EU-Flagge und den Garten des Élysée-Palastes im Rücken. Er selbst werde sich "dem Dialog der Kulturen und der dauerhaften Entwicklung widmen", sagte der 74-Jährige.

Bilder: **Jacques Chirac**Bilder seiner Karriere [mehr]

Am Mittwoch um 11.00 Uhr übernimmt Sarkozy von Chirac den Élysée-Palast. Generalsekretär des Präsidialamtes wird sein Kabinettschef während seiner Zeit als Innen- sowie Wirtschaftsminister, Claude Guéant. Nach einer kurzen Zeremonie im Palast wird Sarkozy am Mittag am Grab des unbekannten Soldaten am Triumphbogen einen Kranz niederlegen - die erste Amtshandlung des neuen Präsidenten. Noch am selben Abend will er nach Berlin fliegen und mit Bundeskanzlerin Angela Merkel über die Reform der EU sprechen.

Noch im Laufe der Woche wird mit der Ernennung einer neuen Regierung gerechnet. Am Abend war, wie erwartet, der bisherige Premierminister Dominique de Villepin zusammen mit seinem Kabinett zurückgetreten.
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InlandVorstand verabschiedet Pläne

Umzug von "Bild" und "Bams" beschlossene Sache

[Bildunterschrift: "Bild" und "Bild am Sonntag" sollen künftig von Berlin aus produziert werden.]
Die Redaktionen von "Bild" und "Bild am Sonntag" werden wie angekündigt von Hamburg nach Berlin umziehen. Der Vorstand des Axel-Springer-Verlags verabschiedete nun den entsprechenden Beschluss. Details sollten nun mit den Betriebsräten beraten werden, sagte ein Sprecher.

Eine Lokalredakion solle in Hamburg verbleiben.

Unmittelbar zuvor hatten die Hamburger Beschäftigten ihrem Unmut über die Verlegung Luft gemacht. Es gebe keinen triftigen Grund, Hamburg zu verlassen, sagte die stellvertretende Betriebsratsvorsitzende Gudrun Dilg vor rund 400 Teilnehmern einer Kundgebung. Viele der Demonstranten trugen T-Shirts mit dem Aufdruck: "Ich bin kein Berliner".

Chefredakteur Kai Diekmann kündigte aber bereits an, er wolle die erste "Bild"-Ausgabe am Tag der Deutschen Einheit am 3. Oktober vollständig von Berlin aus produzieren. Von dem Umzug sind rund 700 Mitarbeiter betroffen.

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WirtschaftTreffen der Weltbank-Führungsspitze

EU erhöht Druck auf Wolfowitz

[Bildunterschrift: Weltbankchef Paul Wolfowitz sagt vor Exekutivrat aus]
Die Weltbank-Führungsspitze wird beim heutigen Treffen über die Zukunft ihres Präsidenten Paul Wolfowitz entscheiden. Er soll eine letzte Gelegenheit erhalten, sich vor dem Exekutivrat der Bank zu den Anschuldigungen zu äußern. Danach will das Führungsgremium seine Abschlussberatungen aufnehmen und darüber entscheiden, ob der Weltbank-Chef seine Führungsrolle weiterhin voll ausüben kann. Bisher tendieren die 24 Vorstandsmitglieder zum Misstrauensvotum, was es Wolfowitz praktisch unmöglich machen würde weiterhin im Amt zu bleiben.

Der eingesetzte Untersuchungssauschuss kam in seinem bereits am Montag veröffentlichten Bericht zu dem Schluss, dass Wolfowitz eigene Interessen über die der Bank gestellt habe. Ihm wird Günstlingswirtschaft vorgeworfen, da er seiner ebenfalls bei der

Weltbank tätigen Freundin einen deutlich höher bezahlten Posten beschaffte.

Die US-Regierung stärkte Wolfowitz vor der Sitzung noch einmal demonstrativ den Rücken. Der Sprecher des Präsidialamts, Tony Snow, räumte zwar ein, dass der ehemalige US-Vizeverteidigungsminister einen Fehler gemacht habe, das sei aber kein Grund ihn zu feuern.

EU-Staaten fordern "starken Weltbankpräsidenten"

[Bildunterschrift: Wieczorek-Zeul empfiehlt Wolfowitz freiwilligen Rücktritt]
Die EU-Staaten erhöhten unterdessen den Druck und verlangten "einen starken Weltbankpräsidenten", um weiterhin Milliardensummen für die Entwicklungshilfe der Weltbank zur Verfügung zu stellen. Dies äußerte die deutsche Entwicklungsministerin Heidemarie Wieczorek-Zeul nach einem Treffen mit ihren Amtskollegen in Brüssel.

Sie verwies auf laufende Verhandlungen über die finanzielle Ausstattung der zur Weltbank gehörenden International Development Association (IDA). Die IDA versorgt vor allem die ärmsten Länder der Welt mit Entwicklungshilfe. Zusätzlich ist sie für den Schuldenerlass zuständig. Es gehe bei den Verhandlungen um einen hohen Betrag zwischen 25 bis 30 Milliarden Dollar. Die Ministerin erklärte, "dass es eines starken Weltbankpräsidenten bedarf, um diese Frage im Interesse der Entwicklungsländer zu regeln und die Mittel zu mobilisieren".

Auf die Frage, ob dies bedeute, dass die EU-Staaten bei einem Verbleib Wolfowitz' im Amt Gelder zurückhalten würden, sagte sie: "Wir Entwicklungsminister können uns manchmal auch so diplomatisch ausdrücken, dass man trotzdem die Botschaft versteht." Wieczorek-Zeul selbst ist der Ansicht, dass Wolfowitz freiwillig zurücktreten solle.

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AuslandNeue Kämpfe zwischen

Palästinensern

Mindestens elf Tote im Gaza-Streifen

Bei neuen Kämpfen zwischen den rivalisierenden Palästinenserorganisationen Hamas und Fatah sind im Gaza-Streifen mindestens elf Menschen getötet worden. Zehn der Getöteten waren Polizisten, die der Fatah-Organisation des Palästinenserpräsidenten Mahmud Abbas angehörten.

Grafik: Mehrere Fatah-Kämpfer starben, als ihr Auto beschossen wurde]

Die Gefechte waren am Morgen wieder ausgebrochen, nachdem ein Hamas-Anführer einen Kontrollpunkt der Polizei durchbrechen wollte und erschossen wurde. Hamas-Kämpfer griffen daraufhin zwei Polizeiposten und einen Fahrzeugkonvoi an. Ein Fatah-Sprecher erklärte, Gardisten seiner Organisation seien in einen Hinterhalt der Hamas geraten und dort "kaltblütig ermordet" worden.

EU ruft zur Mäßigung auf

Die Hamas, die seit März mit der Fatah die Regierung bildet, wies die Darstellung zurück. Israel sei für den Tod der acht Männer verantwortlich. Im übrigen hätten Fatah-Kämpfer einen Hamas-Führer umgebracht und damit die Kämpfe provoziert. Seit Sonntag sind bei dem neuen Ausbruch der Gewalt im Gazastreifen, der auf Monate relativer Ruhe folgte, 21 Palästinenser getötet worden.

Angesichts der schweren Gefechte rief der EU-Außenbeauftragte Javier Solana alle Seiten zur Mäßigung auf. "Die Lage ist sehr ernst", erklärte er nach einem Treffen mit dem palästinensischen Außenminister Siad Abu Amr in Brüssel. Vorwürfe der Arabischen Liga, die EU habe mit ihrem Finanzboykott gegen die palästinensische Regierung das Chaos in den Autonomiegebieten verschärft, wies Solana zurück. Abu Amr erklärte indes, mit einer Änderung ihrer Politik könnte die EU "den Palästinensern helfen, ihre Probleme zu lösen und die chaotische Sicherheitslage

besonders in Gaza zu beenden".

Verletzte bei Raketenangriff auf israelische Grenzstadt

Am Abend feuerten Hamas-Kämpfer eine Salve von Kassam-Raketen auf die israelische Grenzstadt Sderot ab. Eine Frau wurde schwer verletzt, als eines der Geschosse in ihr Haus einschlug. 17 Menschen erlitten nach Angaben der Rettungskräfte leichte Verletzungen. Insgesamt trafen sieben Raketen die Stadt, eine davon eine Grundschule, in der sich jedoch keine Schüler aufhielten. Seit Vereinbarung einer Waffenruhe für den Gaza-Streifen im November hatte die Hamas sich mit solchen Angriffen auf Israel weitgehend zurückgehalten.

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InlandKritik an Becks Ausgrenzungskurs

SPD streitet über Umgang mit der Linkspartei

[Bildunterschrift: SPD-Chef Kurt Beck]

In der SPD mehrt sich die Kritik am Ausgrenzungskurs der Parteiführung gegenüber der Linkspartei. Mehrere Sozialdemokraten nahmen den Wahlerfolg der Linken bei der Wahl in Bremen zum Anlass zur Forderung nach einem Kurswechsel.

Der Parteilinke Ottmar Schreiner sagte, es werde sich für die SPD nicht auszahlen, die Linkspartei weiter als Tabu zu betrachten. "Damit beschneiden wir uns die eigene Machtperspektive." Demokratische Parteien müssten untereinander koalitionsfähig sein. Ähnlich äußerte sich Juso-Chef Björn Böhning. "Eine Koalition mit der Linkspartei ist sicher in den Jahren 2013 und folgende nicht ausgeschlossen", sagte er im Deutschlandfunk.

Der arbeits- und sozialpolitische Sprecher der SPD-Bundestagsfraktion, Klaus Brandner, sprach sich zwar gegen ein Bündnis mit der

Linkspartei auf Bundesebene zum jetzigen Zeitpunkt aus. Auf Dauer solle man eine Zusammenarbeit jedoch nicht ausschließen.

Wahl in Bremen: **Ergebnisse und Analysen**SPD und CDU verlieren - Grüne und Linkspartei gewinnen. [mehr]

"Gysi und Lafontaine sind Schönwetterpropheten"

Vize-Fraktionschef Ludwig Stiegler stellte sich hingegen hinter SPD-Chef Kurt Beck und schloss eine Koalition auf Bundesebene aus. Die beiden Linkspartei-Fraktionsvorsitzenden Gregor Gysi und Oskar Lafontaine seien "Schönwetterpropheten". Beide machten sich "immer, wenn es ernst wird, vom Acker". Beck hatte einer Zusammenarbeit mit der Linkspartei nach der Bremen-Wahl erneut eine klare Absage erteilt. Er kündigte an, die SPD werde stärker das Gespräch mit den Linkspartei-Wählern suchen, die zur Klientel der Sozialdemokraten gehörten. Mit der Partei selbst werde es keine Zusammenarbeit geben.

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InlandZypries stellt Gesetzentwurf vor

Kronzeugenregelung kommt zu neuen Ehren

[Bildunterschrift: Wer aussagt, kann künftig wieder auf kürzere Haftstrafen hoffen.]
Die Bundesregierung will die bisher hauptsächlich im Kampf gegen den Drogenhandel eingesetzte Kronzeugenregelung erheblich ausweiten. Danach können künftig wieder mehr Kriminelle und Terroristen, die zur Aufklärung oder Verhinderung von Straftaten beitragen, Strafmilderung oder Straffreiheit erhalten.

Gesetz könnte schon im Frühjahr 2008 in Kraft treten

Einen entsprechenden Gesetzentwurf stellte Bundesjustizministerin Brigitte Zypries in Berlin vor. Die Regelung soll künftig für jene mittelschweren und schw-

eren Straftaten gelten, bei denen auch Telefonüberwachung angeordnet werden kann. Das betrifft etwa den Bereich der organisierten Kriminalität, krimineller oder terroristischer Vereinigungen sowie Wirtschaftskriminalität oder Rauschgift- und Menschenhandel. Bislang wurden Strafrabatte im Tausch gegen Informationen hauptsächlich bei Drogendelikten gewährt. Das Kabinett berät am Mittwoch über den Gesetzentwurf, der nach Angaben von Zypries im kommenden Frühjahr in Kraft treten könnte. Die Grünen kritisierten den neuen Entwurf als Vorlage, um mit Straftätern schmutzige Deals zu machen. Die FDP findet das Gesetz zu weitgehend. "Damit verliert die Kronzeugenregelung ihren Ausnahmecharakter", erklärte Parlamentsgeschäftsführer Jörg van Essen.

"Wir sind nicht mehr so großzügig im Strafrabatt"

Der mögliche Strafnachlass wird allerdings eingeschränkt. "Wir sind nicht mehr so großzügig im Strafrabatt", sagte Zypries. Hat ein Kronzeuge lebenslänglich zu erwarten, darf die Strafe allenfalls auf zehn Jahren gemildert werden. Ein kooperationswilliger Mörder kann also durch seine Aussage nicht frei kommen. Von Strafe absehen darf das Gericht nur, wenn der aussagewillige Täter nicht mehr als drei Jahre Gefängnis zu erwarten hätte.

Die alte Kronzeugenregelung hielt Rot-Grün für unbrauchbar und ließ sie nach zehn Jahren 1999 auslaufen. Nur bei Drogen- und Geldwäschedelikten gab es weiterhin eine "kleine Kronzeugenregelung". Die Union wollte schon lange eine Wiedereinführung. Die Berufsverbände von Richtern, Staatsanwälten und Rechtsanwälten hatten sich bislang immer vehement gegen eine neue Kronzeugenregelung ausgesprochen.

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Wirtschaft 16.000 Telekom-Mitarbeiter im Streik

"Bis die Telekom endlich einlenkt"

Grafik: Streikende Telekom-Mitarbeiter bei Protestkundgebung in Freiburg]

Im Tarifstreit zwischen der Deutschen Telekom und der Gewerkschaft ver.di wird der Tonfall immer schärfer. Die Gewerkschaft warf dem Konzern vor, streikende Mitarbeiter mit Drohungen und Geldprämien zur Rückkehr an ihren Arbeitsplatz bewegen zu wollen. So gebe es in Nordrhein-Westfalen mehrere Mitarbeiter, denen mit Abmahnungen und sogar mit fristlosen Kündigungen für den Fall gedroht worden sei, dass sie sich den von der Telekom einseitig angeordneten Notdiensten verweigerten, sagte ver.di-Sprecher Günter Isemeyer. Auch kursierten SMS an Beschäftigte, in denen es laut Gewerkschaft wörtlich heißt: "Hallo Kollegen, wer ab morgen wieder seinen Dienst antritt, bekommt täglich 50 Euro, so lange gestreikt wird." Dies sei für einen Weltkonzern ein keinesfalls angemessenes Verhalten, kritisierte der Gewerkschaftssprecher.

Dossier: **Telekom in der Dauerkrise**Der Weltkonzern kämpft an vielen Fronten. Hintergründe, Analysen, Porträts [mehr]

Deutsche Telekom: Die Deutsche Telekom AG ist der größte Anbieter im Bereich Telekommunikation in Europa und der drittgrößte weltweit. Der Konzern ist in vier Geschäftsfelder untergliedert: T-Com steht für das Breitband/Festnetz. T-Mobile International für das Geschäftsfeld Mobilfunk. T-Systems ist der Anbieter von IT- und Telekomdienstleistungen. Konzernzentrale & Shared Values übernimmt strategische Funktionen.

Die Telekom stritt die Vorwürfe ab: "Es gibt keinen organisierten SMS-Versand mit Streikbrecher-Prämien", sagte Sprecher Christian Schwolow. Er warnte vor Überreaktionen und appellierte an ver.di, "die Kirche im Dorf zu lassen". Im Konzern gebe es lediglich eine grundsätzliche Regelung, wonach Mitarbeiter bei außergewöhnlichen Belastungen mit Einmalzahlungen belohnt würden. "Und natürlich

haben wir durch die Streiks eine Situation, in der auf arbeitende Mitarbeiter einiges an Mehrarbeit zukommt."

Callcenter und Kundendienst betroffen

Die Streiks und Proteste gegen den umstrittenen Konzernumbau wurden noch einmal ausgeweitet. Rund 16.000 Service-Beschäftigte legten nach Angaben der Gewerkschaft bundesweit ihre Arbeit nieder, um den Druck auf die Telekom zu erhöhen. Sie verlangen ein besseres Angebot bei der umstrittenen Auslagerung von 50.000 Service-Kräften in Unterfirmen. Die Beschäftigten sollen dort neun Prozent weniger verdienen und 38 statt 34 Stunden pro Woche arbeiten. Tarifverhandlungen über den Konzernumbau waren nach fünf Runden gescheitert.

Telekom-Streik: **Was kommt auf die Verbraucher zu?**Wichtige Fragen und Antworten zum Telekom-Streik. [mehr]Bestreikt wurden erneut Callcenter, technische Kundendienste und Bereiche der technischen Infrastruktur. Einem Telekom-Sprecher zufolge müssen Kunden deshalb weiter mit Verzögerungen bei der Behebung von Störungen rechnen. Zudem müssten Termine für die Montage von Anschlüssen verschoben werden.

Keine Signale für Gesprächsberei

"Wir machen so lange weiter, bis die Telekom endlich einlenkt", sagte Streikleiter Ado Wilhelm. Es gebe bislang noch keine Anzeichen für neue Gespräche mit der Konzernführung, sagte er. Am Mittwoch sollen laut Gewerkschaft erneut rund 15.000 Telekom-Mitarbeiter - jeder Zehnte in Deutschland - in den Ausstand treten.

Verständnis in der Bevölkerung

Laut einer repräsentativen Forsa-Umfrage im Auftrag des Magazins "Stern" haben die Verbraucher trotz möglicher Beeinträchtigungen große Sympathie für die Streikenden: Mehr als drei Viertel der rund 1000 Befragten äußerten Verständnis für den Ausstand.

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AuslandPassagiere freigelassen

Überfall auf Bus in Italien endet unblutig

Drei bewaffnete Männer haben in Norditalien einen Bus überfallen und die Passagiere vorübergehend als Geiseln festgehalten. Nach wenigen Stunden ließen sie die Insassen wieder frei. Den Passagieren gehe es gut, lediglich ein Polizist, der sich zufällig in dem Bus befand, sei leicht mit einem Messer verletzt worden, berichtete die Nachrichtenagentur Ansa.

Grafik: Feuerwehrleute vor dem ausgebrannten italienischen Linienbus]
Die Hintergründe der Tat waren zunächst völlig unklar. Der Linienbus war zwischen den piemontesischen Städten Alessandria und Novara in der Region Genua unterwegs, als die Täter ihn in ihre Gewalt brachten. Einem Insassen sei es jedoch gelungen, die Polizei zu verständigen und Alarm zu schlagen. Kurze Zeit später ließen die Kidnapper ihre Geiseln frei, übergossen den Bus mit Benzin und ließen ihn in Flammen aufgehen. Beamte konnten einen der Männer festnehmen, die beiden anderen sind noch auf der Flucht.
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AuslandSteinmeier und Rice bei Putin

"Das sind keine Konflikte"

Grafik: Bundesaußenminister Steinmeier mit dem russischen Präsidenten Putin in Moskau]
Der russische Präsident Wladimir Putin hat Bundesaußenminister Frank-Walter Steinmeier bei einem Treffen in Moskau seine Bereitschaft zur Lösung von Problemen mit der EU zugesichert. "Das sind keine Konflikte zwischen der EU und Russland, sondern nur unterschiedliche Auffassungen, wie wir die Probleme lösen können",

sagte Putin zum Auftakt des Gesprächs in seiner Residenz Nowo-Ogarjowo.

Steinmeier sprach als amtierender EU-Ratsvorsitzender von unterschiedlichen Interessen Russlands und einiger EU-Staaten. "Wir dürfen keinen Zustand von Sprachlosigkeit eintreten lassen, auch wenn es unterschiedliche Interessen gibt", sagte der SPD-Politiker. Es sei die Aufgabe beider Seiten zu erreichen, dass sich "aus diesen Interessensunterschieden keine großen politischen Konflikte auftürmen". Er glaube, dass es trotz aller Probleme "ein guter Gipfel" werde. Steinmeier war kurzfristig nach Moskau gereist, um ein Scheitern des EU-Russland-Gipfels am Freitag an der Wolga zu verhindern.

Vor dem Treffen in Samara: Die Streitpunkte zwischen EU, USA und Russland im Überblick [mehr]

Steinmeier hatte vor seiner Abreise eingeräumt dass die EU bei dem Spitzentreffen im russischen Samara ihre wichtigsten Ziele wohl nicht erreichen werde. Voraussichtlich könnten weder die Verhandlungen über ein neues Partnerschaftsabkommen eröffnet noch ein jahrzehntelanger Streit um Überflugrechte beigelegt werden. Weitere Konfliktthemen sind unter anderem die Verlegung eines sowjetischen Kriegerdenkmals in Tallinn, das russische Einfuhrverbot für Fleisch aus Polen sowie die Zukunft des Kosovos.

"Wieder leisere Töne" zwischen USA und Russland?

[Bildunterschrift: Ein Fototermin wurde angeblich auf Wunsch des Kremls abgesagt: US-Außenministerin Rice (Archivbild)]

Unmittelbar vor Steinmeiers Treffen mit Putin war bereits US-Außenministerin Condoleezza Rice mit dem russischen Staatschef zusammengetroffen. Neben der Zukunft des Kosovos sorgten zuletzt vor allem die Pläne für einen US-Raketenschutzschild für Spannungen zwischen den beiden Staaten. Nach Angaben des russischen Außenministers Sergej Lawrow, der an dem Treffen teilnahm, wollen die USA und Rus-

sland im diplomatischen Umgang miteinander künftigt "wieder leisere Töne" anschlagen. Rice und Putin seien sich bei ihrem Treffen in Moskau einig gewesen, dass die zuletzt hitzige Rhetorik wieder gedämpft werden solle, sagte Lawrow am der Nachrichtenagentur Itar-Tass. Dennoch wurde, so berichtet die Nachrichtenagentur AP, ein gemeinsamer Fototermin abgesagt - auf Wunsch des Kremls. Und Rice betonte nach dem Treffen, die USA würden auch gegen den Protest Russlands den umstrittenen Raketenschutzschild in Europa errichten. Washington lasse sich von niemandem in dieser Frage ein Veto aufzwingen.

Animation: **Raketenabwehr**Interaktive Infografik zur Funktionsweise der Raketenabwehr [mehr]

"Keine unerbittliche Feindschaft"

Auch US-Außenministerin Condoleezza Rice hatte zu Beginn ihres zweitägigen Besuchs in Moskau schwere Spannungen im Verhältnis zwischen den USA und Russland eingeräumt. Die derzeitigen Beziehungen zwischen den Staaten seien aber nicht mit der "unerbittlichen Feindschaft" zwischen der USA und der Sowjetunion zu vergleichen. "Ich werfe nicht mit Begriffen wie 'Kalter Krieg' um mich", bekräftigte die Außenministerin.

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Gunmen have killed at least four people in a raid on the Gaza home of a Fatah official, ending the third truce in as many days between Palestinian groups.

The dawn killings came hours after the ceasefire was agreed by feuding factions Hamas and Fatah.

Earlier an Egyptian diplomat was shot and wounded. Previous deals also failed within hours.

Almost 30 people have died since fierce fighting broke out in Gaza on Sunday, including 14 in one attack on Tuesday.

Four Israelis were also injured on Tuesday, one seriously, by a rocket fired into the town of

Sderot, near the Gaza Strip.

Israeli aircraft later bombed uninhabited areas of northern Gaza often used for rocket launches as a "deterrent", the military said.

Ceasefire 'test'

Fatah officials quickly blamed Wednesday morning's killings on Hamas, although this could not immediately be confirmed.

The gunmen attacked the house of Rashid Abu Shbak, a top Fatah security figure, who was not home at the time, before storming inside and killing at least four guards.

Several Israelis were injured by rocket fire in Sderot, near Gaza Mortars were also fired at the office of Palestinian Authority President Mahmoud Abbas, although no-one was injured.

The renewed violence quickly undermined Tuesday night's attempt to broker a ceasefire between Hamas and Fatah, the third such truce brokered since the violence first flared at the weekend.

Both previous agreements, which have been brokered with Egyptian assistance, lasted little more than a few hours.

The latest accord floundered almost immediately. An Egyptian diplomat was shot in the hand, reportedly as he walked along a Gaza street to test whether gunmen were sticking to the deal.

Gunfire then echoed across Gaza into the early hours of Wednesday morning.

The current fighting is the worst outbreak of factional violence since Hamas and Fatah agreed a truce in February and joined a national unity government.

Press split on crisisPalestinians under gun rule The BBC's Aleem Maqbool, in the West Bank town of Ramallah, says whatever the militants started fighting for, the killings are now in the name of revenge.

Palestinian Authority President Mahmoud Abbas has urged an end to the factional fighting.

However, it is clear that the gunmen are in charge, not the politicians, our correspondent says, although it is not clear is how much further the situation will escalate.

Ambush

Street gun battles had raged throughout Tuesday, with schools and businesses closed and most residents of Gaza City kept indoors.

In the worst single attack of the unrest so far, at least 14 people died in an attack on a Fatah military training base near the Karni crossing point with Israel on Tuesday.

HAVE YOUR SAY **You can't expect any kind of resolution to the conflict in Gaza for as long as Hamas is in power**
Brad, Japan
Send us your commentsGaza city viewpoint A spokesman told Associated Press the Karni base was attacked with rockets, rocket-propelled grenades and mortars. Hamas denied its members were involved.

About 500 Fatah loyalists returned to Gaza on Tuesday from police training in Egypt, officials said.

A Fatah official denied the loyalists would fight Hamas, saying they offer security for all Palestinians.

Up to 170 people have died in clashes between Fatah and Hamas since the latter won parliamentary elections in January 2006.

Israel withdrew its settlers and troops from Gaza in 2005, but kept control of its borders, airspace and territorial water. [←]

[←]
World Bank President Paul Wolfowitz has met the bank's 24-member board to respond to allegations of favouritism.

Mr Wolfowitz is under pressure to go after a panel said he had broken the bank's code of conduct by helping secure a pay rise for his girlfriend.

He told the board their decision would affect how the US and the world viewed the World Bank.

The board has the power to dismiss Mr Wolfowitz, and will meet again on Wednesday to consider his fate.

"You still have the opportunity to avoid long-term damage by resolving this matter in a fair and equitable way that recognises that we all tried to do the right thing," Mr Wolfowitz

said, according to a statement released by his lawyers.

Earlier on Tuesday, the White House said it still supported Mr Wolfowitz, but added that all options were still open.

I think his performance justifies the full support he has from leadership in the White House

Robert Bennett

Wolfowitz lawyer

"We've made clear that we support Paul Wolfowitz," said spokesman Tony Snow, adding that the bank's "best interests" also had to be served.

After the hearing in Washington Mr Wolfowitz's lawyer Robert Bennett said:

"We presented to them overpowering evidence that he acted at all times in the interests of the bank and in good faith."

He added that his client's performance justified "the full support he has from leadership in the White House".

'Not a firing offence'

However the Reuter news agency quoted an unnamed European source as saying the US had failed to win the support of key allies in the group of seven leading industrialised nations (G7).

Q&A: Wolfowitz and the World Bank

"Japan was aligned with the United States, but others, including Canada, were against Wolfowitz continuing," the source said following a conference call of G7 officials.

The G7 also includes Italy, France, Germany and Britain.

On Monday, a panel of World Bank executives said Mr Wolfowitz provoked a "conflict of interest" at the bank by breaking its code of conduct and violating the terms of his contract.

Mr Wolfowitz has faced calls for him to step down since details emerged about his role in securing a pay rise for his partner, Shaha Riza, who used to work at the bank.

Mr Snow told journalists at the White House that Mr Wolfowitz agreed "a lot of mistakes were made" in the process, but they were not a "firing offence".

When Mr Wolfowitz was appointed president of the World Bank in 2005, Ms Riza was

transferred to work for the US state department, to avoid any conflict of interest.

But her salary rose quickly to about $193,000 (£98,000) - more than the $186,000 that Secretary of State Condoleezza Rice receives before tax.

The World Bank has since been investigating the extent of Mr Wolfowitz's role in securing the pay increase.

[←]

[←]

Outgoing French President Jacques Chirac is preparing to hand over power to his successor Nicolas Sarkozy.

The two men will attend a ceremony at the Elysee Palace in Paris.

The new centre-right president succeeds Mr Chirac, his former mentor, after defeating a Socialist candidate in the 6 May run-off.

On Tuesday Mr Chirac bade farewell to the nation in a televised address after 12 years in power. He said he was "proud of a duty well accomplished".

But the BBC's Paris correspondent Caroline Wyatt notes that Mr Chirac leaves behind unemployment of more than 8% and a nation uncertain of its place in the world and divided over its future.

Symbolic acts

Mr Chirac will leave the Elysee for good after a ceremony transferring power to Mr Sarkozy at 1100 (0900 GMT).

In his address Mr Chirac pledged to work for important causes He will also hand over the launch codes of France's nuclear arsenal.

The new president will make a speech before attending a military parade, complete with a 21-gun salute.

Mr Sarkozy will then visit the Arc de Triomphe to rekindle the flame of the unknown soldier, before laying a wreath the spot where German troops shot French resistance members in World War II.

He will then travel to Berlin to meet German Chancellor Angela Merkel, a key ally and the current president of the European Union.

Mr Sarkozy, 52, is not expected to name his prime minister and cabinet until Thursday.

A former minister, Francois Fillon, is expected be made prime minister.

Reports also suggest that a senior member of the defeated Socialist party, Bernard Kouchner, is a leading candidate for the post of foreign minister. [←]

[←]

US President George W Bush has named a senior general to be the first American "war tsar".

Lt Gen Douglas Lute, currently serving as director of operations at the Pentagon, will coordinate the ongoing conflicts in Iraq and Afghanistan.

He will report directly to Mr Bush as deputy national security adviser.

Gen Lute was appointed after a lengthy search in which several candidates apparently turned down the position. He must be confirmed by the US Senate.

President Bush is expected to make an official announcement about Mr Lute's appointment on Wednesday.

Turf wars

If confirmed, Gen Lute, 55, would take his post as the US battles militants in Iraq and Taleban rebels in Afghanistan.

LT GEN DOUGLAS LUTE Graduated from West Point academy 1975Active in 1991 Gulf WarCommander, Kosovo, 2002US Central Command, 2004-06Pentagon 2006-07 He would also begin work against the backdrop of attempts by congressional Democrats to restrict funding for Iraq, or to tie future funding to evidence of progress.

Correspondents say it is unclear exactly what General Lute will do, and whether the job will involve settling turf wars between the Pentagon and the state department.

He will serve as an adviser to the president but will also keep his military position and three-star ranking, reports said.

The Associated Press news agency reported that the new appointee would speak for the president concerning developments

in the conflict areas and smooth over differences between rival departments.

Several White House security officials have left the administration in recent months. [←]

[←]

The Serbian parliament has given its approval for the formation of a coalition government.

The new government will be made up of Serbia's main pro-democracy parties and led by the current acting PM, moderate nationalist Vojislav Kostunica.

The vote came just before a constitutional deadline, avoiding the requirement to call fresh elections.

Serbia's attempts to prevent independence for Kosovo is expected to be high on the government's agenda.

The UN has proposed a plan which would give Kosovo all the trappings of an independent state but the plan, broadly accepted by Albanians, is opposed by Serbia.

The province has been administered by the UN since a Nato bombing campaign in 1999 ended a Serb crackdown against ethnic Albanians, some of whom had taken up arms.

"Membership in the European Union is a clearly defined goal of this government," Mr Kostunica said ahead of the vote.

"But there will be no territorial concessions. Kosovo is a part of Serbia and it will always remain so."

Protest

Mr Kostunica said his government would also focus on co-operation with the Hague tribunal.

He added that other key issues for the new coalition will be tackling corruption and bringing in social and economic reforms.

Mr Kostunica had agreed to form a coalition with pro-Western President Boris Tadic last Friday to the relief of the West, who feared Serbia's delicate democracy would return to nationalism.

Parliament managed to approve the new government with 133-106 votes from the 250-seat house 30 minutes before the

deadline expired.

But an hour before the deadline, ultra-nationalist MPs attempted to delay the vote as news emerged of a police raid in search of war crimes suspect Ratko Mladic.

Gen Mladic has been indicted for genocide by the international war crimes tribunal at The Hague.

Hardline nationalist Tomislav Nikolic said MPs had a right to know about such raids.

Talks on closer ties between Serbia and the European Union have been stalled because of lack of co-operation with the UN war crimes tribunal in The Hague. [←]

[←]

A Brazilian rancher has been found guilty of killing US-born nun and environmental activist Dorothy Stang.

A court in the city of Belem sentenced Vitalmiro Bastos Moura, 36, to 30 years for paying gunmen to shoot the 73-year-old missionary dead in 2005.

Sister Dorothy campaigned for poor farmers' rights and to preserve the rainforest from loggers and developers.

Her murder followed a dispute with ranchers over land they wanted to clear for pasture and she wanted to protect.

'Justice done'

Judge Raymond Moises Alves Flexa imposed the maximum sentence.

He said Moura had showed "a violent personality unsuited to living in society" and that the killing had been carried out in a "cowardly manner".

Activists saw the trial as a test of whether the government could act to curb lawlessness in the Amazon.

Dorothy Stang's brother David, who was at the trial, said "justice was done".

Prosecutors said Mr Moura had ordered Sister Dorothy's killing because she had sent letters to the local authorities accusing him of setting illegal fires to clear land, which led to him receiving a substantial fine.

The Ohio-born nun had lived in the remote town of Anapu for more than 20 years, help-

ing peasant farmers defend their land.

She was found dead on a muddy track in February 2005, shot six times at close range.

Three men - two gunmen and an intermediary - have already been convicted for the killing, but this was the first trial of someone who ordered it.

Another rancher charged with ordering the killing goes on trial later in the year.

In the past 30 years, more than 1,000 people have been killed in land disputes in Brazil, the BBC's Brazil correspondent Gary Duffy says - more than 770 of those in the state of Para. [←]

[←]

A man in north-eastern Spain has made an unexpected discovery after buying a new home without seeing it first.

Inside he found the mummified body of the previous owner.

Jordi Giro bought the flat in the Costa Brava resort of Rosas at an auction after the previous owner defaulted on her payments.

He told police that he was shocked on going into the flat for the first time to discover her dead body sitting on the sofa.

It seems that Maria Luisa Zamora failed to keep up payments on her mortgage because she had in fact died in 2001.

Forgotten

Police believe the body has been preserved by the salty sea air.

Coroners said Mrs Zamora died of natural causes.

But questions are being asked about why no-one has been concerned as to her whereabouts for the last six years.

Police say neither her estranged husband nor her children in Madrid registered a missing persons report for the 55-year-old.

Neighbours say Mrs Zamora had bought the flat as a holiday home and told AFP news agency that when the garden grew over they assumed she had simply stayed away.

[←]

[←]

The man being treated as a suspect in the search for missing Madeleine McCann says he has been made "a scapegoat for something I did not do".

Briton Robert Murat, 33, told Sky News the situation had "ruined" his life.

Police have searched his mother's Algarve villa, which is close to where four-year-old Madeleine, of Rothley, Leicestershire, was last seen on 3 May.

However, officers said they did not have the evidence to formally arrest or charge anybody.

Mr Murat, who previously lived in Hockering, Norfolk, has recently been living with his mother Jenny, 71, in Praia da Luz.

Speaking off camera after it emerged he was being treated as a suspect, Mr Murat told Sky News: "This has ruined my life and made my life very difficult for my family here and in Britain.

"The only way I will survive this is if they catch Madeleine's abductor."

We are hopeful that this case will be over in the near future

Chief Inspector Olegario de Sousa

Members of Mr Murat's family have insisted he had nothing to do with Madeleine's disappearance and say he was having dinner with his mother on the night it happened.

On Tuesday, Chief Inspector Olegario de Sousa told a news conference he could not confirm whether Madeleine was alive or dead.

He said police had searched five houses on Monday and seized "various materials" from the properties which were being subjected to forensic tests.

Two other people - a German woman and a Portuguese man - have been questioned as witnesses.

Map of locations

The suspect, who has not been formally named by police, has signed an identity and residence statement which prevents him from moving house or leaving Portugal, and requires him to regularly report to police.

Mr Sousa confirmed the suspect had assisted police in the early stages of the investigation

by working as a translator.

Being declared a suspect, or "arguido", means Mr Murat has additional legal rights under Portuguese law.

He may have been named as an arguido by police or could have chosen to take the status himself to gain those protections.

ARGUIDO STATUS Officially a suspectBestowed by police or requested by individualRight to remain silentRight to a lawyerMust report to police every five days

An arrest can be made once someone is an arguido, but only if there is sufficient evidence.

"When you work, you work to get results, but this doesn't always happen at once," Mr Sousa said.

"Let's wait and see. We are hopeful that this case will be over in the near future."

Mr Murat, a former property developer, had become well known to journalists during the search for Madeleine.

The search of his mother's property, known as Casa Liliana, began on Monday after Sunday Mirror journalist Lori Campbell had spoken to the British Embassy and the police about Mr Murat.

It is believed police have examined two cars used by the Murats, as well as taking away computers, mobile phones and several video tapes

Madeleine McCann disappeared on 3 May

His mother is a former nurse who has lived in Portugal for 40 years and brought Mr Murat and his sister up in the country.

Mr Murat's uncle, Ralph Eveleigh, who runs a bed and breakfast in the nearby village of Burgau, said his nephew had been at home with his mother on the night Madeleine went missing.

"Robert is so sweet and goodnatured. He was just trying to help," he added.

Madeleine disappeared from her bedroom 13 days ago as her parents ate dinner at a nearby tapas restaurant.

On Wednesday, Madeleine's uncle and aunt, John and Philomena McCann, from Glasgow, are to visit the House of Commons in a bid to keep the search in the public eye.

Glasgow MP Mohammed Salwar, who will accompany the couple, said the McCann family had "the full support of the British government".

The international number for Crimestoppers is +44 1883 731 336. People with information about Madeleine can call anonymously.

Back to link [←]

[←]

The Reverend Jerry Falwell, a leading US conservative evangelist, has died in hospital in Virginia after being found unconscious in his office.

Doctors gave Mr Falwell emergency treatment at Lynchburg General Hospital but could not revive him.

US President George W Bush paid tribute to Mr Falwell, 73, who he said lived a life of "faith, family, and freedom".

Mr Falwell, who founded the Moral Majority movement in the 1970s, had a history of heart problems.

He rose to prominence after founding Liberty University, a conservative educational establishment in his home town of Lynchburg, Virginia, in 1971.

Mr Falwell was regarded as the father of the political evangelical movement.

Dr Falwell is a huge, huge leader here in this area and in the nation at large
Ron Godwin
Liberty University vice-president
Obituary: Jerry FalwellJerry Falwell in quotes As one of the first television preachers, he reached millions on his programme The Old Time Gospel Hour.

President Bush said both he and his wife, Laura, were "deeply saddened" by Mr Falwell's death.

"He taught young people to remain true to their convictions and rely upon God's word throughout each stage of their lives," Mr Bush said.

Controversial

Ron Godwin, executive vice-president for Liberty University, said Mr Falwell was found unresponsive in his office at about 1045 local time (1535 GMT) after missing an appointment.

Mr Godwin said: "Dr Falwell is

a huge, huge leader here in this area and in the nation at large."

The Reverend Al Sharpton said he was saddened and was praying for the Falwell family. He said although he often disagreed with the reverend, they had a cordial relationship.

The BBC's Vanessa Heaney in Washington says Mr Falwell was a controversial figure who offended many.

But his alliance with Republicans in the 1980s was a key help in the elections of Ronald Reagan as president and many political leaders have since continued to seek his support.

Among them is Senator John McCain - a Republican contender for US president - who described him as "a man of distinguished accomplishment who devoted his life to serving his faith and country".

Mr Falwell was a strong opponent of abortion, homosexuality and many other issues that conflicted with his fundamentalist Christian beliefs.

His statements on feminism and race issues often outraged liberals.

In 2002, he sparked anger across the Muslim world by calling the Prophet Muhammad a "terrorist". He later apologised.

Shortly after the 11 September 2001 attacks, he said that gays, atheists, civil-rights activists and legal abortions in the US had angered God and "helped this happen".

In 1999, he denounced the BBC TV children's show The Teletubbies, because he believed one character, Tinky Winky, was homosexual.

[←]

[←]

Fifa president Sepp Blatter says he will look into how the Premier League handled West Ham's breach of rules.

West Ham were fined £5.5m for irregularities over the signing of Carlos Tevez and Javier Mascherano but they escaped a points deduction.

Blatter said he is "monitoring the situation very carefully".

But Fifa has told BBC Five Live Sport that it is not re-examining the evidence with

the aim of testing the Premier League's ruling.

West Ham broke two Premier League rules by entering into a private agreement with a third-party company when they signed Argentine pair Tevez and Mascherano in August last year.

606: DEBATE **What do you think Fifa are going to do?**
FD

Mascherano has since moved to Liverpool, while Tevez stayed in London and played an influential role in West Ham's successful battle against relegation - scoring seven goals in the club's last 10 games.

Sheffield United, who went down on the final day of the season, are leading the fight against an independent commission's decision not to punish the Hammers with a points deduction.

The Blades, who are being supported by the likes of Wigan, Fulham, Charlton and Middlesbrough, are also concerned that West Ham may still have been breaking Premier League rules after the ruling on 27 April.

The Premier League has argued that it has no case to answer in regards to West Ham's punishment because all 20 Premiership clubs agreed to the disciplinary system in place.

However, that has not stopped Sheffield United pursuing their case and Blatter's intervention may encourage them.

A Premier League statement later read: "We have implemented our rulebook and processes to the letter in this matter and we are more than happy to give Fifa any assurances or explanations they need."

[←]

[←]

Andy Murray seems almost certain to miss this month's French Open after suffering tendon damage to his wrist in the first round of the Hamburg Masters.

On his 20th birthday, he was leading Italian Filippo Volandri 5-1 when he suffered the injury to his right wrist.

Murray had an MRI scan in hospital and is awaiting the full results but he confirmed he has

not broken any bones.

"I'll probably have a cast on it for a few days. It's not looking great if I'm realistic but you never know," he said.

Interview: Andy Murray

"I don't know what will happen exactly - we'll probably announce something in the next few days."

I was playing awesome - probably the best I'd played this year
Andy Murray

Five Live tennis correspondent Jonathan Overend said that the fact there is no fracture improves Murray's chances of recovering in time for Wimbledon, which starts on 25 June.

The French Open, the second Grand Slam of the season, gets under way on 27 May.

Murray, the ninth seed, was desperate to kick-start his clay court campaign after missing Monte Carlo with a back injury and suffering a first-round defeat in Rome last week.

He won the first three games without dropping a point and broke Volandri three times in surging to within one game of taking the set.

However, he seemed to jar his wrist as he played a routine forehand before dropping his racquet and crying out in pain.

606: DEBATE Give your reaction to Murray's injury

He returned after a 10-minute break but crumpled altogether following his next attempted forehand.

"I hit the forehand and as soon as I hit it I knew something wasn't right," Murray explained.

"I was playing awesome - probably the best I'd played this year - without a doubt the best I'd felt on court.

"I was moving well and showing the improvements I'd made from last year. It's a little bit disappointing to miss the clay court season but I look forward to the next one."

The injury-prone Murray has only completed one match on the ATP Tour since reaching the semi-finals of the Miami Masters Series in March.

"I try to be optimistic and try to get back on court as soon as possible. I've had a bad run of luck with injuries - it happens

to everyone at some point," he added.

"It's been one thing after another but nothing too serious and hopefully this one won't be too bad either."

Volandri will go on to face Jose Acasuso of Argentina after he beat Spain's Guillermo Garcia-Lopez 6-3 6-4 in an earlier match on Tuesday.

The 1998 French Open champion Carlos Moya beat American Mardy Fish 6-0 6-3 to set up a meeting with Tomas Berdych of the Czech Republic.

Nicolas Almagro upset sixth-seeded Tommy Robredo 6-7 (1-7) 6-2 6-4 in the second round.

Ivan Ljubicic rallied to beat Florent Serra of France 4-6 6-2 6-2 and will next play David Ferrer, who struggled before beating Robin Soderling of Sweden 1-6 6-3 6-2. [←]

[←]

The US and the African Union have warned Ethiopia not to withdraw its troops from Somalia before peacekeepers are deployed to replace them.

AU commission chief Alpha Oumar Konare says it would be a "catastrophe" if Ethiopia pulled out too soon.

US Africa envoy Jendayi Frazer said it would probably be several months before the full peacekeeping force arrived.

Ethiopia's prime minister says he wants to withdraw all his troops, after they helped oust Islamists.

Up to a third of the population fled recent fighting in the capital, Mogadishu, and badly need aid.

HAVE YOUR SAY **Stability will remain elusive... The chaos we are seeing is caused by Western interference**
Dominick, Florida
Send us your comments

Less than 40% of the estimated 300,000 displaced Somalis are receiving any help, according to UN humanitarian relief chief John Holmes.

After a visit to Mogadishu, he said Somalia now represents a worse displacement crisis than Sudan's Darfur region.

'Onerous'

Ethiopian Prime Minister Meles Zenawi said he wanted to

end the "onerous" financial burden of having Ethiopian troops, estimated to be several thousand in number, in Somalia.

"Things have improved significantly in Mogadishu, making it possible for peacekeeping troops to do their job," he said.

Clan rivalries behind violenceDoctor's story: 'Too many patients'

"I very much hope and expect that those African countries that have promised to send troops will do so."

Mr Konare told the AFP news agency that Ethiopia must wait for the AU forces.

"If Ethiopia withdrew from Somalia today, it would be a catastrophe," he said.

He said Ethiopia had done the job of the AU but its continued presence could "block political dialogue" in Somalia.

But Ms Frazer said that an Ethiopian withdrawal before the AU troops arrived would lead to a security vacuum.

"It would be a mistake for Ethiopia to withdraw. That said, we certainly want them to withdraw from Somalia as soon as possible," she told the BBC's Newshour programme.

Ethiopia has twice fought border wars with Somalia and is widely distrusted there.

So far, Uganda has sent 1,700 peacekeepers but the AU says another 6,300 troops are needed.

Nigeria, Burundi and Ghana have all promised to contribute to the AU force.

Mr Meles said the "organised resistance" of the Islamists had now been "broken".

The Ethiopia-backed government says it is in control of Mogadishu after what is seen as the worst fighting in 16 years in the city.

But gunmen attacked a World Health Organization office in the city on Monday night, injuring a guard, WHO officials say.

Cholera

Aid workers have accused authorities of hindering the passage of food aid at checkpoints set up across Mogadishu.

"We estimate that we are only reach 35 to 40% of those in need," Mr Holmes said.

Mr Holmes described conditions in Mogadishu as "depress-

ing" "Many are already suffering from a cholera outbreak."

Mr Holmes said international law had been violated by the fighting factions in the city, saying that some citizens had disappeared without explanation.

"Clearly, human rights abuses have taken place, but the government categorically denied reports and accusations of their involvement," he said.

He said the government had promised to co-operate with a planned UN investigation into the reports.

Mr Holmes, the most senior UN official to visit the city in more than a decade, had to cut short his trip on Saturday, after bombs exploded in Mogadishu, killing three people.

Somalia has been without an effective national government for 16 years, controlled by rival militias and awash with guns. [←]

[←]

The pilot of the plane that crashed in Cameroon earlier this month was warned about the stormy weather, Cameroon's Civil Aviation Authority head has said.

"The control tower gave all the meteorological information to the commander of the flight... he decided to take off," Ignatius Sama Juma said.

Kenya Airways Boeing 737 crashed into swampland soon after take-off from Douala, killing all 114 passengers.

The official inquiry is yet to report on the cause of the disaster.

So far the data recorder has been recovered, but not the voice recorder.

Flight data recorders and cockpit voice recorders contain a wide variety of information, including speed and altitude as well as cockpit voice communications.

People from at least 23 nations had been travelling on board flight KQ 507 which took off in heavy rain en route to the Kenyan capital, Nairobi, on Saturday 5 May.

Mr Sama Juma said two other planes had also been due to leave that night, but waited until the weather conditions improved.

Search parties took nearly two

days to locate the wreckage.

The distress beacon was found on Tuesday, state media reports.

The BBC's Randy Joe Sa'ah, in Cameroon, says there has been growing anger about the slow recovery process among the families of the victims.

[←]

[←]

The US will not allow Russia to stop it from deploying anti-missile defences in Europe, US Secretary of State Condoleezza Rice has said in Moscow.

"I don't think anyone expects the United States to permit a veto on American security interests," she said after meeting President Vladimir Putin.

Earlier, they agreed to tone down the rhetoric in public exchanges.

These were the first talks since February when Mr Putin accused the US of seeking global dominance.

Washington is not seeking confrontation, but wants Moscow's co-operation over sensitive issues such as Kosovo, Iran and missile defence, the BBC's defence and security correspondent Rob Watson says.

But the agreement to tone down the rhetoric does not mask the continuing differences and the sense in Moscow that Washington has long been ignoring legitimate Russian concerns, our correspondent says.

'Candid' talks

Ms Rice held talks on Tuesday with Mr Putin, Russian Security Council Secretary Igor Ivanov, Foreign Minister Sergei Lavrov, former Prime Minister Yevgeny Primakov and Russian civic leaders.

The two sides are divided over several issues, including the missile defence shield plan.

She defended her position on US missile plans, saying: "The United States needs to be able to move forward, to use technology to defend itself, and we're going to do that."

We did talk about the need to keep the temperature down
Condoleezza Rice

Living with disagreements

But she also said: "If there are

concerns about how the United States has and is continuing to exercise power, absolutely, we can have that discussion."

Russian Foreign Minister Sergei Lavrov said his country's "stance on missile defence was reaffirmed", but maintained it had been a "candid and friendly conversation".

"[Mr Putin] supported the understanding by the American side that rhetoric in public exchanges should be toned down and we should focus on concrete issues," local media quoted Mr Lavrov as saying after the talks.

And Ms Rice agreed that the two sides had talked "about the need to keep the temperature down".

The US opened talks with Poland on Monday over its plans to locate part of its defence shield on Polish soil.

The US wants 10 interceptor rockets there to destroy any long-range ballistic missiles fired at the US from the Middle East.

How the defence system works

Warsaw has indicated it will back the plan if it improves Poland's security. The US also wants a radar base in the Czech Republic.

The Kremlin has also expressed opposition to Washington's backing for the independence of Kosovo from Serbia. Russia believes Kosovo should remain part of Serbia.

"It was agreed to search for a solution on Kosovo that would be acceptable for all, but there is no such solution immediately in sight," Russian Foreign Minister Sergei Lavrov said.

For her part, Ms Rice has criticised what she sees as democratic setbacks in Mr Putin's Russia. [←]

[←]

A Pakistani-born US resident detained at Guantanamo Bay has said he was "mentally tortured" there, according to a transcript released by the Pentagon.

Majid Khan, who has been accused of planning to blow up petrol stations in the US, also described how he tried to commit suicide by chewing on an artery.

Mr Khan presented a State-

ment of Torture to the US military tribunal reviewing his "enemy combatant" status.

He was among 14 "high-value" detainees moved to Guantanamo Bay in September.

The men were previously held in secret CIA prisons but are now being detained in a maximum security wing at the base in Cuba.

Mr Khan moved to the US in the late 1990s, where he went to high school in Baltimore.

The US government says that, on his return to Pakistan, family members introduced him to senior al-Qaeda leader Khalid Sheikh Mohammed.

He is also accused of having links with fellow Guantanamo detainee Ali Abd al-Aziz Ali, and of passing money to the Islamist militant group, Jemaah Islamiah (JI).

'Extensive torture'

At the tribunal at Guantanamo Bay on 15 April, Mr Khan denied he had any connection with Islamist militant groups such as al-Qaeda.

There is extensive torture even for the smallest of infractions

Majid Khan

Key US terror suspectsMajid Khan testimony

"I am not an enemy combatant," he asserted.

"I am not an extremist."

"I have never been to Afghanistan and I have never met Osama bin Laden."

Afterwards, Mr Khan's personal representative read out a written statement, in which he alleged psychological torture.

"I swear to God this place in some sense worst than CIA jails. I am being mentally torture here," he said.

"There is extensive torture even for the smallest of infractions."

Mr Khan complained about how US guards had taken away pictures of his daughter, given him new glasses with the wrong prescription, shaved his beard off, forcibly fed him when he went on hunger strike, and denied him the opportunity for recreation.

This led him to attempt to chew through his artery twice, Mr Khan said.

Later, Mr Khan produced a list of further examples of psy-

chological torture, which included the provision of "cheap, branded, unscented soap", the prison newsletter, noisy fans and half-inflated balls in the recreation room that "hardly bounce". [←]

[←]

Vote counting from the Philippine mid-term elections has been hindered by violence and reported fraud.

Two teachers died counting votes as their school was set alight on Monday night, bringing to 126 the number of election-related deaths, police said.

Meanwhile, observers spoke of voter intimidation and described seeing blatant attempts to buy votes.

The millions of votes from Monday's congressional and local elections are being counted by hand.

Initial results for local areas are expected as early as Thursday, but it could be weeks before the final outcome for the Senate and House of Representatives is known.

We also saw people who already voted several times and had more than one ink mark on their fingers

Election observer Jessica Tulloch

An exit poll by ABS-CBN television in Manila suggested that the opposition could win at least nine of the 12 Senate seats up for grabs.

But it is thought the 275-seat House of Representatives will remain in the hands of President Gloria Arroyo's supporters.

This would thwart any attempt by the opposition to launch a third bid to impeach her over allegations she fixed the 2004 presidential election.

'Generally peaceful'

National police chief, Oscar Calderon, described Monday's vote as "relatively peaceful", compared with the 189 deaths in the 2004 poll, but admitted there continued to be reports of "isolated incidents of violence".

Ballot boxes were set alight as teachers counted votes in a school south of Manila. The flames quickly engulfed the building, killing two and hospitalising three others, police said.

The election campaign was colourful, but often violent

TV reports also said a policeman guarding ballot boxes in northern Ilocos Norte province was shot dead after polls had closed on Monday.

At least three people were killed on polling day itself.

Mr Calderon vowed to go "hammer and tongs" against the perpetrators of violence over the last three months of campaigning, and "give justice to the 126 killed".

Meanwhile, election observers described seeing scenes of violence, intimidation and threats towards voters.

One volunteer observer in the south of the country told the Associated Press that she had seen vote-buying take place at the polling station - with ballot papers handed to voters with money attached.

"We... also talked to minors who were able to vote several times. We also saw people who already voted several times and had more than one ink mark on their fingers," Jessica Tulloch, a Chicago volunteer with the United Methodist Church, said.

The Asian Network for Free Elections warned of a "culture of impunity for election and political crime" that could "fuel calls for alternative government that can provide justice for the people".

But officials said that, while there were sporadic reports of irregularities, this poll had generally been more fair and peaceful than past elections.

"It is a credit to the Filipino people that [Monday's] elections, compared to previous ones, were generally peaceful and that we had a good turnout," presidential spokesman Ignacio Bunye said.

More than 70% of the country's registered 45 million voters are believed to have turned out for Monday's vote.

In total, about 87,000 candidates were contesting nearly 18,000 positions. [←]

[←]

A teenage Japanese boy has been arrested after walking into a police station carry-

ing a severed human head and claiming to have killed his mother.

The 17-year-old went to a police station in the town of Aizuwakamatsu, north of Tokyo, carrying the head in a sports bag, Japanese media said.

The beheaded body of a woman was later found at the boy's home, police said.

This is the latest in a series of grisly killings in Japan, a country renowned for its low crime rate.

On Monday a severed human leg was discovered in a small river in central Tokyo.

In January, a 32-year-old woman was arrested after she confessed to killing her husband, dismembering him with a saw and dumping body parts around Tokyo.

'It's horrifying'

In the latest case, the boy, said to be a local high school student, reportedly told police he killed his mother with a knife during the night as she slept, and had acted alone.

Japanese press said the boy lived with his young brother, separately from their parents. Their mother was believed to have been visiting them on Monday.

The teenager was reported to have undergone psychiatric treatment at some point in the past.

Chief Cabinet Secretary Yasuhisa Shiozaki expressed his alarm at the reports. "If it's true, it's horrifying," he said.

Aizuwakamatsu is located in Fukushima prefecture, some 200km (125 miles) north of Tokyo.

[←]

[←]

Businesses leaders across Europe caught employing illegal immigrants could face time in jail, under proposals due to be announced by the European Union.

The European Commission also wants to increase the number of police raids on companies suspected of breaking rules.

As much as 16% of Europe's business is done off the books, according to the Justice Commissioner Franco Frattini.

Hundreds of thousands of

people are believed to be doing jobs without the necessary paperwork across Europe.

But illegal workers become more than just statistics when things go wrong.

Three years ago, 21 Chinese immigrants lost their lives at Morecambe Bay in the north of England.

Detection rates

They were gathering shellfish on the mudflats for an illegal gang master but the tide came in suddenly and they drowned.

There is little doubt why illegal workers are attractive for many companies - they earn a fraction of the regular wages and the penalties in many parts of Europe for many companies which are caught breaking the rules are not severe.

So the European Commission wants to see much stiffer punishments - including prison sentences - and much heavier financial penalties for big companies.

But it may face resistance from some member states as traditionally the EU does not interfere with matters of criminal law.

The other big change may be detection rates with the European Commission calling for a five-fold increase in the number of police raids on companies suspected of breaking the rules.

[←]

[←]

European Union member states and members of the European Parliament have reached a preliminary deal on cutting mobile roaming charges.

Under the deal, it would cost a maximum of 49 euro cents (£0.34, $0.66) to call home from another EU state, and 24 cents to receive a call.

These caps would drop a little in 2008, and more in 2009.

If MEPs and European telecoms ministers formally back the deal the new prices could come into force over the summer.

A vote is expected next Wednesday in the European Parliament, while telecoms ministers are due to consider the package on 7 June.

The European Commission warned the industry in 2004 that it was overcharging customers

for roaming, and presented its plan to cap prices last year.

Roaming in the EU can often cost one euro a minute. A Maltese calling home from Latvia can pay as much as 11.21 euros (£7.68) for a four-minute conversation.

Compromise

PROPOSED ROAMING CAPS
Making a call
Parliament opening bid: **40**c European Commission: **44**c Parliament compromise: **45**c German EU presidency: **60**c Industry (GSMA): **65**cPreliminary deal: **49**c falling to **43**c in 2009**Receiving a call**
Parliament opening bid: **15**c European Commission: **15**c Parliament compromise: **20**c German EU presidency: **30**c Industry (GSMA): **35**cPreliminary deal: **24**c falling to **19**c in 2009*Charges per minute, excluding VAT*

Case study: EU roaming law
The EU's German presidency had pushed for price caps of 60 cents to make a call, and 30 cents to receive one.

The European Parliament originally wanted caps of 40 cents and 15 cents.

"I hope this package can deliver for consumers this summer," said Austrian MEP Paul Ruebig, who led the negotiations for the parliament.

British MEP Giles Chichester said he expected operators to compete with each other to be the first to offer the new rate.

"I would be astonished if mobile operators do not take the hint," he said.

Telephone companies will have one month from the time the regulation is published in the official journal - probably in mid-June - to offer customers the new pricing plan.

So consumers will be able to enjoy the new rates in mid-July if they reply to the offer promptly.

Three-year limit

Three months after the regulation comes into force, consumers will be switched to the new rate automatically, unless they have deliberately chosen a different package.

The price ceilings would drop in 2008 to 46 cents for making calls abroad and 22 cents for receiving them, the negotiators

agreed.

In 2009 they would drop further, to 43 cents and 19 cents respectively.

After three years, the caps would be lifted.

The telecoms industry has warned that mobile phone users in Europe could face higher domestic charges, if roaming charges are forced down too much.

"We're disappointed. The price caps are very low, they leave no room for competition below those levels. They will become the standard tariff," said David Pringle, spokesman for the GSM Association, which groups together Europe's mobile phone operators.

He added that informing all customers of their tariff choices would be a "huge exercise in logistics".

[←]

[←]

International efforts to halt Iran's uranium enrichment programme have been "overtaken by events", the head of the UN's nuclear agency has said.

IAEA Director General Mohammed ElBaradei said Tehran now possessed "the knowledge about how to enrich".

In an interview with the New York Times, he said the focus should now be on trying to stop Iran from going to industrial-scale production.

Iran has denied accusations from the West that it seeks nuclear weapons.

From a proliferation perspective, the fact of the matter is that one of the purposes of suspension ... has been overtaken by events
Mohammed ElBaradei

Inspectors from the International Atomic Energy Agency revealed that Iran has solved its technical problems and is now capable of making fuel suitable for nuclear reactors.

"From now on, it is simply a question of perfecting that knowledge. People will not like to hear it, but that's a fact," Mr ElBaradei said.

The findings come after a short-notice inspection by the

agency at Iran's main nuclear facility at Natanz on Sunday.

"From a proliferation perspective, the fact of the matter is that one of the purposes of suspension - keeping them from getting the knowledge - has been overtaken by events," Mr ElBaradei said.

TIMELINE: IRAN ENRICHMENT 2003: Enrichment programme that had been hidden for 18 years is uncovered by IAEAFeb 2006: Iran reports to Security Council5 Feb 2007: Diplomats confirm Iranian claims to have set up more than 300 centrifuges in two cascades9 April: Iran says it is enriching uranium on an industrial scale. IAEA and Russian officials are sceptical19 April: IAEA document confirms Iran is running more than 1,300 centrifuges in eight cascades

Q&A: Iran nuclear issue

He added: "The focus now should be to stop them from going to industrial-scale production, to allow us to do a full-court-press inspection and to be sure they remain inside the treaty."

His remarks will serve to increase the pressure on the US, British, French, German and Russian governments, whose collective efforts to halt Iran's nuclear research have so-far failed, says BBC diplomatic correspondent Jonathan Marcus.

Last month the agency revealed the main nuclear plant at Natanz was using about 1,300 centrifuges - machines that spin uranium gas into enriched material.

Until recently, those centrifuges were incapable of running at the speeds necessary to make nuclear fuel.

However, the material being produced by Iran still requires further enrichment before it can be turned into bomb-grade material.

More sanctions threatened

Mr ElBaradei has previously said that Iran would not be able to produce the highly enriched uranium needed for a nuclear bomb as long as it remained under the supervision of IAEA inspectors.

The agency is due to report its findings to the UN Security

Council next week.

The UN Security Council has imposed sanctions on Tehran for its failure to scale back its nuclear programme.

Nicholas Burns, the US undersecretary of state for policy, told the New York Times that if Iran does not agree to suspend its activities by the time of next month's G8 meeting, the US would press for a third round of sanctions.

Tehran has insisted that its nuclear programme is for peaceful purposes only. [←]

[←]

The international Red Cross has privately accused Israel of reshaping Jerusalem to further its own interests, in violation of international law.

A leaked ICRC report says Israeli policy has far-reaching humanitarian consequences for Palestinians living under occupation in East Jerusalem.

Israel captured East Jerusalem in 1967, and the territory is regarded as occupied land under international law.

But Israel rejects this, and says the report's premise is, therefore, wrong.

The report says Israel shows "general disregard" for its obligations under international humanitarian law and the law of military occupation in particular.

Violations that change the status of East Jerusalem include the West Bank barrier, an outer ring of Jewish settlements around the city and roads to connect Israeli districts and settlements, the report says.

An ICRC spokesman confirmed that leaked quotations in a US newspaper were from a confidential report transmitted in February 2007 to Israel and some other governments.

Boycott

The leak comes a day before Israel marks 40 years, according to the Jewish calendar, since its capture of East Jerusalem from Jordanian control, in the 1967 war.

"We reject the premise of the report," said Israeli foreign ministry spokesman Mark Regev.

"East Jerusalem is not occupied land, it is part of Israel. All

people there were offered full Israeli citizenship."

Israel's unilateral moves in Jerusalem have been condemned by several UN Security Council Resolutions.

US and EU ambassadors have boycotted ceremonies in the run-up to Israel's Jerusalem Day on Wednesday, arguing that the status of the city should be determined by negotiations with the Palestinians.

[←]

[←]

A powerful bomb blast in a hotel in the centre of the north-western Pakistani city of Peshawar has killed at least 24 people, police and officials say.

The ground-floor blast demolished parts of the four-storey Marhaba hotel near a busy market, trapping people inside.

Up to 30 people were injured, officials said. Ambulances and hand-pushed carts were used to ferry them to hospital.

The motive for the attack is not known. Peshawar has seen many recent attacks, some causing serious loss of life.

Rescue efforts

The Marhaba, in Peshawar's old city, is popular with tribal visitors from Afghanistan.

I tried to visit the site but there was huge rush of people and every one was panicking... It was terrible
Humayun Khan, Peshawar

In pictures: Bomb carnage

Police say the blast happened at lunchtime in the reception lobby when the hotel was crowded with diners.

One man, Muhammad Ibrahim, told the BBC of his near escape.

"I was entering the hotel when suddenly [there was] a huge bomb blast cracking everything around."

Another spoke of panic in the area, and of the dead and injured being taken to the nearby Lady Reading hospital.

Hassan Khan, a waiter in the hotel, said he survived only because he was taking food to guests in their rooms at the time of the blast.

"I lost my senses, and when I came round and ran to see,

there were dead bodies and body parts everywhere, even out in the street," he told the Associated Press news agency.

Many people were wounded in the explosion

He said the Afghan owner of the restaurant, his two sons and two other relatives were among the dead. Seven employees had also been killed.

The blast was so powerful that it blew out at least one of the walls of the hotel.

Television pictures showed shattered windows and twisted fans inside the hotel. Nearby buildings in the congested city centre also suffered damage.

Local people helped get survivors out of the building and retrieve bodies.

Provincial police chief Sharif Virk said at least one woman and a child were also among the dead.

He called the incident terrorism, but he has not named any suspects. No group has said it carried out the attack.

Mr Virk and other senior police and government officials have said they believe the attack was carried out by a suicide bomber.

They say that a severed leg, possibly that of the alleged bomber, was found at the scene of the blast with a note in Pashto tied to it warning "American spies" of a similar fate.

Correspondents say so far neither the leg nor the note have been shown to journalists - nor is it clear how a suicide bomber could be confident that a piece of paper would be found intact after the blast.

Bomb attacks

There have been a series of explosions in Peshawar over the past year.

Some have been blamed on local militants from Pakistan's nearby tribal areas, said to be taking revenge for government strikes against them.

Others have been blamed on Afghan intelligence. Pakistan and Afghanistan have a history of strained relations.

Last month a suicide attack near Peshawar targeted the interior minister and killed nearly 30 people.

In January, a bomb in the city

killed at least 14 people, most of them policemen.

Correspondents say there is no indication that Tuesday's blast is linked to violence between pro-government and opposition supporters which has left more than 40 people dead in recent days in the southern city of Karachi.

[←]

[←]

Pakistan cricket coach Bob Woolmer was not strangled, a UK government pathologist has concluded, according to the Times newspaper.

Dr Nat Carey said after studying autopsy material that death was not by asphyxiation from strangling, it said.

The Jamaica Gleaner newspaper has separately cited Scotland Yard sources as saying Mr Woolmer was not murdered.

Mr Woolmer was found dead in his hotel in Jamaica after Pakistan's first-round exit from the World Cup.

The comments from the UK sources led Jamaican opposition lawmaker Derrick Smith to say the case had become a "global embarrassment" for the Caribbean nation.

There have been a number of contradictory claims about the cause of Mr Woolmer's death since his body was found on 18 March.

On Tuesday, Jamaican deputy police commissioner Mark Shields again insisted the case was being treated as a murder investigation.

Herbicide

The Times was citing sources close to the investigation of Dr Carey.

It said there was growing speculation that death was by natural causes, although it gave no new information on what may have led to Mr Woolmer's death.

The results of toxicology tests are still awaited but the Times said they might indicate the levels of a herbicide said to have been found in his body.

[The media should] refrain from speculation because of the additional distress it places upon the Woolmer family

Karl Angell,

Jamaican police

The herbicide is used for weeding cricket pitches. The tests may show whether the level was sufficient to have triggered the sickness and diarrhoea Mr Woolmer suffered before death, it said.

Heart trouble has been suggested as another cause for the death of Mr Woolmer, 58, who also suffered from diabetes.

The original autopsy said Mr Woolmer may have suffered manual strangulation, indicated by a broken bone in his neck.

UK authorities were asked to help with the investigation.

The Jamaica Gleaner said Scotland Yard's pathology report said Mr Woolmer "died of natural causes and not manual strangulation as was initially reported by Mark Shields".

The paper said the report contradicted that of the local pathologist, Dr Ere Sheshiah.

Jamaican police spokesman Karl Angell said such press reports were "unhelpful" and urged the media "to refrain from speculation because of the additional distress it places upon the Woolmer family".

Mr Shields said: "Every theory, from weed killer to aconite, has come from the media, not the police... We maintain that this is an ongoing murder investigation."

Derrick Smith, of the Jamaica Labour Party, said the case had jeopardised the reputation of the nation's police.

"The matter has become a global embarrassment for us," he said.

No-one has yet been arrested in connection with Mr Woolmer's death, which overshadowed the cricket World Cup.

Investigations have included the possibility of murder by a disgruntled fan, player or by figures concerned Mr Woolmer was going to make allegations of corruption. [←]

[←]

Alex Salmond is set to become the first Nationalist to lead Scotland when he is elected first minister later.

However, he will have to strive for consensus as the head of

Holyrood's first minority government.

Mr Salmond is set to be voted into the top job by MSPs after the SNP became the largest party in the election.

He is also expected to immediately set about a radical reshaping of the Scottish Executive to meet the key aims of his government.

The election saw the SNP win 47 seats, just one ahead of Scottish Labour and the Scots Liberal Democrats were left with 16.

The Scottish Conservatives have 17 MSPs, although one of their number, Alex Fergusson, has taken up the politically neutral job of presiding officer.

Shake-up

The Scottish Greens returned two MSPs and the colourful Independent Margo MacDonald was re-elected.

Mr Salmond it set to become the first Nationalist to win power in the party's 73-year history.

The Greens are to back him in a Scottish Parliament vote, and the Tories and Liberal Democrats are expected to sit on their hands once their leaders are eliminated in the first round.

Jack McConnell is the current first minister

That means Mr Salmond will defeat Scottish Labour leader and current first minister Jack McConnell in a final vote, before heading for St Andrew's House, the headquarters of the Executive.

The SNP leader will also confirm a shake-up, cutting the number of departments from nine to six oblige ministers and civil servants to work towards five key aims - including making Scotland healthier, wealthier, safer and better educated.

Mr Salmond also wants to enhance Scotland's global profile.

But he has insisted he will not provoke conflict with London, rather seeking a "partnership of equals" with the UK government. [←]

[←]

News and information group Reuters has agreed to be bought out by Canadian financial data provider Thomson in a deal worth about £8.7bn

($17bn).

The tie-up will create the world's biggest financial news and data firm, allowing the new company to leapfrog its main rival, US-based Bloomberg.

Other news firms are also eyeing deals as they seek to cut costs, squeeze rivals and increase their client base.

Reuters and Thomson reckon their deal will save them $500m (£250m) a year.

Reuters shares in London closed 3.39% or 20.5 pence higher at 626p.

Broader reach

Thomson, whose publishing interests include law, tax and scientific research, has been expanding its non-data business.

Reuters will complement its news operations in the US and AFX in Europe, analysts said.

They added that a merged Thomson and Reuters would be in a stronger position to compete with Bloomberg.

The expertise and strengths of the two firms makes for a strategically compelling and financially attractive combination

Reuters

Q&A: Why Reuters is newsCheck Reuters' shares

The three companies are rivals in the "terminal" market, providing news and financial data on stocks, currencies and bonds to banks, traders and brokerages.

According to industry estimates released in April, Bloomberg has a 33% share of the terminal market, with Reuters controlling 23% and Thomson 11%.

Following the merger, the new company will be called Thomson-Reuters and will be listed on stock exchanges in London and Toronto.

It will have annual revenues of about $12bn and almost 49,000 employees.

"The shared expertise and complementary strengths of these two companies makes for a strategically compelling and financially attractive combination," said Niall Fitzgerald, chairman of Reuters.

Reputation

While the companies are keen for the tie-up to go ahead, it

still needs approval from competition regulators, and some analysts questioned whether they would get the go-ahead.

Concerns about getting approval for the deal have held back Reuters' share price in past days, trimming some of its gains for this year. The company's shares have added more than 35% since the end of 2006.

At the same time, some observers have questioned whether the agreement will damage the reputation of Reuters' news service.

Reuters journalists are unhappy

Robert Peston, BBC business editor

Read Robert Peston's blog

"For more than 150 years, Reuters has been one of the great independent news organisations. No longer," said the BBC's business editor Robert Peston.

Reuters' independence has been guaranteed by the structure of the business - which prohibits any individual from owning 15% or more of the company, Mr Peston explained.

However, "that prohibition is being waved for the Thomson family, which will end up owning 53% of the enlarged business", he said.

"Reuters journalists are unhappy," the BBC's business editor continued.

"There will be concerns that over time Reuters general news operations will become marginalised within an outfit that sees its future as supplying intelligence and tools to those who operate in global financial markets."

Top man

According to the terms of the deal, Reuters shareholders will get 352.5 pence in cash and 0.16 Thomson share for every Reuters share they own.

That values Reuters shares at 692p each, the companies said in their statement.

Reuters boss Tom Glocer will head the enlarged firm, while Thomson president and chief executive Richard Harrington will retire.

The Thomson family will own 53% of the new firm through its Woodbridge investment vehicle.

Mr Harrington, who joined

Thomson in 1982, has been the driving force behind the company's plans to get rid of its newspaper holdings and concentrate on legal and finanical data, as well as electronic publishing. [←]

[←]

Eating a Mediterranean diet halves the risk of serious lung disease like emphysema and bronchitis, a study says.

Grouped under the umbrella term chronic obstructive pulmonary disease (COPD), they are expected to become the world's third leading cause of death by 2020.

French researchers tracked almost 43,000 men for 12 years.

The Thorax study suggests the diet - with much fruit, vegetables, grains and fish - is rich in anti-oxidants, which cut the risk of tissue inflammation.

Alternatively, lower levels of sugar and nitrates in the diet - both of which have been linked to impaired lung function - may play a role.

A more standard Western diet tends to include higher levels of processed foods, refined sugars, and cured and red meats than the Mediterranean diet.

The researchers, from the French research institute Inserm, found that a Mediterranean diet was associated with a 50% lower risk of developing COPD than the Western diet - even after taking factors such as smoking and age into account.

And men who ate a predominantly Western diet were more than four times as likely to develop COPD.

Other benefits

The study showed that the higher the compliance with a Mediterranean diet, the lower the risk of developing COPD over the 12-year period.

Conversely, the higher the compliance with the Western diet, the higher was the risk of developing COPD.

Last month, an international study reported that a Mediterranean diet helped prevent the development of asthma and respiratory allergies in children.

And last year, US researchers found that eating a Mediter-

ranean diet could reduce the risk of developing Alzheimer's.

Dr Keith Prowse, chairman of the British Lung Foundation, said: "COPD is a hugely disabling illness and we welcome the findings of this large study which provide an interesting insight into a possible link between diet and the disease.

"COPD is the only major cause of death whose incidence is on the increase in the UK and we urgently need more research into all aspects of the disease so that health services can prevent and treat it more effectively." [←]

[←]

A scientific exploration of the various ways people attempt to make themselves happy has won the annual Royal Society Prize for Science Books.

Daniel Gilbert's Stumbling on Happiness had been tipped as the favourite to win the prestigious £10,000 award.

It beat five other titles including Henry Nicholl's Lonesome George, an account of the last known individual of a subspecies of Galapagos tortoise.

Each runner up received £1,000 at a ceremony at the Society's headquarters.

Professor Colin Pillinger, from the Open University in Milton Keynes, chaired the judging panel. He said that all of the books had been "excellent" and deciding on first prize had been "extremely difficult".

Read the full shortlist for the 2007 general prize

Discussing the winner he said: "Daniel Gilbert's voice provides a witty companion throughout this exploration of the science behind the pursuit of happiness.

"He uses cognitive science and psychology to provide intriguing insights into human nature, helping us to understand why we make the decisions we do."

Perhaps all children need is the confidence to approach a subject with enthusiasm and an open mind

Richard Hammond, junior prize winner Gilbert himself was thrilled to take the book prize. "I'm absolutely delighted to re-

ceive this tremendous honour from the world's oldest learned society," said the Harvard University psychology professor.

"There are very few countries (including my own - the US) where a somewhat cheeky book about happiness could win a science prize - but the British invented intellectual humour and have always understood that enlightenment and entertainment are natural friends. So God bless the empire!"

Tour de force

Now in its 19th year, the award was known as the Rhone-Poulenc Prize from 1990 to 1999. Until this year, it went by the name of the Aventis Prize but now bears the name of the Royal Society.

The author introduces readers to the world of physics There are two categories: the junior prize, which is given to the best book written for under-14s, and the general prize, for the best book written for a more general readership.

This year's junior prize was won by BBC Top Gear presenter Richard Hammond for his book Can You Feel the Force? published by Dorling Kindersley (DK). It explores the world of physics.

Read the full shortlist for the 2007 junior prize

Eleanor Updale, children's writer and chair of the junior judging panel, said it was an "instantly appealing book".

"With clear illustrations, practical experiments, and well-paced text, it makes an interest in science look like fun," she said.

Reacting to his win, Richard Hammond, who also presents the science series Brainiac on UK TV, said: "I was immediately captivated when the team at Dorling Kindersley approached me about making a book to try to bring physics to life.

"Perhaps all children need is the confidence to approach a subject with enthusiasm and an open mind. The DK team gave them just that and winning this award is recognition for a group of very talented people."

The general prize is often referred to as the "Booker prize for science writing", although the

science prize winner often outsells its better-known counterpart.

Past winners have included Bill Bryson, Stephen Hawking and Chris McManus.

The judges were Colin Pillinger; Trevor Baylis, inventor of the wind-up radio; Louisa Bolch, commissioning editor for science on Channel 4; Emily Holmes, Royal Society Dorothy Hodgkin Fellow at the University of Oxford; and Christine McGourty, science correspondent for BBC News.

The full shortlist for the 2007 Royal Society Prize for Science Books:

Homo Britannicus, by Chris Stringer (*Penguin Allen Lane*)
The book tells the epic story of the human colonisation of Britain, from our very first footsteps to the present day. Drawing on all the latest evidence and techniques of investigation, Chris Stringer describes times when Britain was so tropical that humans lived alongside hippos and sabre tooth tigers; and times so cold they shared the land with reindeer and mammoth; and times colder still when humans were forced to flee altogether.

In Search of Memory, by Eric R Kandel (*WW Norton & Co*)
Nobel laureate Eric R Kandel charts the intellectual history of the emerging biology of the mind, and sheds light on how behavioural psychology, cognitive psychology, neuroscience and molecular biology have converged into a powerful new science. These efforts, he says, provide insights into normal mental functioning and disease, and simultaneously open pathways to more effective treatments.

Lonesome George, by Henry Nicholls (*Macmillan*)
Lonesome George is a 1.5m-long, 90kg tortoise aged between 60 and 200, and it is thought he is the sole survivor of his subspecies. Scientific ingenuity may conjure up a way of reproducing him, and resurrecting his species. Henry Nicholls details the efforts of conservationists to preserve the Galapagos' unique biodiversity and illustrates how their experiences and discover-

ies are echoed worldwide. He explores the controversies raging over which mates are most appropriate for George and the risks of releasing crossbreed offspring into the wild.

One in Three, by Adam Wishart (*Profile Books*)
When his father was diagnosed with cancer, Adam Wishart couldn't find any book that answered his questions: what was the disease, how did it take hold and what did it mean? What is it about cancer's biology that means it has not been eradicated? How close are we, really, to a cure? There was no such book. So he wrote it. One in Three interweaves two powerful stories: that of Adam and his father; and of the 200-year search for a cure.

The Rough Guide to Climate Change, by Robert Henson (*Rough Guides*)
Robert Henson has written this guide to a pressing issue facing the world. The guide looks at visible symptoms of change on a warming planet, how climate change works, the evolution of our atmosphere over the last 4.5 billion years and what computer simulations of climate reveal about our past, present, and future. It looks at the sceptics' grounds for disagreement, global warming in the media and what governments and scientists are doing to try to solve the problem.

Stumbling on Happiness, by Daniel Gilbert (*Harper Press*)
Psychologist Daniel Gilbert reveals how and why the majority of us have no idea how to make ourselves happy. The drive for happiness is one of the most instinctive and fundamental human impulses. In this revealing and witty investigation, psychologist Daniel Gilbert uses scientific research, philosophy and real-life case studies to illustrate how our basic drive to satisfy our desires can not only be misguided, but also intrinsically linked to some long-standing and contentious questions about human nature.

click here to return

The full shortlist for the 2007 Royal Society Junior Prize for Science Books:

Can You Feel the Force?,

by Richard Hammond (*Dorling Kindersley*)
The BBC Top Gear presenter takes the reader on an introductory tour of the physical forces in the universe. The book uses quizzes, brainteasers and home experiments to cover all areas of physics, answering questions such as why a cold ball bounces higher than a warm one and why a person's stomach goes up when a roller coast plummets straight down.

How Nearly Everything Was Invented by the Brainwaves, by Ralph Lazar, Jilly MacLeod, Lisa Swerling (*Dorling Kindersley*)
The book is introduced by a group of pint-sized pals known as the Brainwaves who set out on a journey to discover the story behind 300 key inventions such as the light bulb, train and wheel. The friends uncover the who, what, when, where and why of each invention and how they have transformed the way we live today.

It's True! Space Turns You into Spaghetti, by Heather Catchpole, Vanessa Woods (*Allen & Unwin*)
The sixteenth book in this non-fiction series is packed with quirky facts about life in space, including anecdotes from previous space missions as well as further information about the solar system and beyond.

KFK Natural Disasters, by Andrew Langley (*Kingfisher*)
Part of the Kingfisher Knowledge series, the book details some of the most catastrophic events that have shook and shocked the world. It examines why disasters like tsunamis and wild fires occur and looks at new technologies which are trying to predict and prevent similar disasters occurring.

My Body Book, by Brita Granstrom, Mick Manning (*Franklin Watts*)
A colourful book aimed at younger children, it uses multi-coloured illustrations and half-page flaps to reveal the inner workings of the human body.

Science Investigations: Electricity by John Farndon (*Wayland*)
A practical book that answers common questions about electricity such as what it is, how it

is measured and why it can make some objects glow. The book also provides questions for readers to investigate further on their own and links to useful websites as well as glossary, index and a list of further reading.

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A free programming tool that allows anyone to create their own animated stories, video games and interactive artworks has been developed.

Primarily aimed at children, Scratch does not require prior knowledge of complex computer languages.

Instead, it uses a simple graphical interface that allows programs to be assembled like building blocks.

The digital toolkit, developed in the US at MIT's Media Lab, allows people to blend images, sound and video.

"Computer programming has been traditionally seen as something that is beyond most people - it's only for a special group with technical expertise and experience," said Professor Mitchel Resnick, one of the researchers at the Lifelong Kindergarten group at MIT.

"We have developed Scratch as a new type of programming language, which is much more accessible."

Child's play

The explosion in broadband connectivity has fuelled the growth of websites that offer rich media experiences, including video and animations.

"These days, kids interact with all kinds of dynamic things on screen but it is usually a one-way street - they are usually interacting with things that other people have created," said Professor Resnick, who also invented Lego Mindstorms, a robotics toolkit often used in teaching.

With Scratch, our goal is to allow people to mix together all kinds of media... in creative ways
Mitchel Resnick

"With Scratch we want to let kids to be the creators. We want them to create interesting dynamic things on the computer."

The program works by making the act of creating a computer program more like building with Lego bricks.

"Kids make programs by snapping blocks together," said Professor Resnick, whose position is in part supported by the toy company.

Objects and characters, chosen from a menu and created in a paint editor or simply cut and pasted off the web, are animated by snapping together different "action" blocks into stacks.

"They don't have to worry about the obscure punctuation and syntax common in most programming languages," he said.

Each block contains a separate command, such as "move" or "play drum" and each action can be modified from a drop-down menu. Blocks can only be stacked if they fit together.

So, for example, if someone wanted to animate a cat walking across the screen they could modify the move block to tell the cat to walk forward 10 steps.

If they then wanted the cat to bang a drum as it walked, they could stack the play-drum block underneath, choosing a sound for the instrument and how long each beat should last.

Other actions, such as speaking, changing colour or triggering music, can then be added to complete the animation.

Mix and match

Scratch is inspired by the method hip hop DJs use to mix and scratch records to create new sounds.

Users can share their creations on the Scratch website

"With Scratch, our goal is to allow people to mix together all kinds of media, not just sounds, in creative ways," said Professor Resnick.

"We want people to start from existing materials - grabbing an image, grabbing some sound, maybe even bits of someone else's program and then extending them and mixing them to make them their own."

Digital creations can then be shared on a site where users can watch other creations and even borrow elements from other Scratch projects to act as raw materials for their own.

"Kids like to share stuff on

the web and I think that is a very strong element of Scratch," said Professor Nigel Shadbolt, of the University of Southampton and President of the British Computer Society (BCS).

He believes that it will be a useful tool for teaching children about computational thinking and enthusing "the next generation" of IT professionals.

"The thing that's very difficult for children encountering programming for the first time is that it is very unforgiving," said Professor Shadbolt.

"A program doesn't congratulate you for the 90% that you got right. It fails for the 10% you got wrong. So an environment where you are essentially assembling components that can only be configured in set ways takes some of that hardship away."

And for those that want to get stuck into something that looks more like traditional code there are sites like HacketyHack.

The site teaches children to code in a language called Ruby. There are seven free lessons, including one that allows them to develop a blog with just six lines of code.

"All of these environments are about getting kids to approach the world in a systematic and a structured way," said Professor Shadbolt.

Scratch is now available to download for free and works with both Apple Macs and Windows PCs.

A version of the tool is also currently being developed for the XO laptop, designed by the One Laptop Per Child Project.

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Hollywood star Sylvester Stallone has pleaded guilty to importing a banned human growth hormone into Australia.

The actor, 60, admitted possessing the growth hormone Jintropin when he was stopped at Sydney airport in February.

Stallone had been in Australia to promote his film Rocky Balboa, but he was not in the Sydney court on Tuesday.

He will be sentenced next week, when he faces a maxi-

mum fine of A$22,000 ($18,330, £9,200) in court, much lower than if it had been a federal case.

In federal cases, the maximum penalty for importing a banned substance of this type is A$110,000 ($91,600) and five years in prison.

Prosecution documents said Stallone had marked "no" on a customs declaration form that asked if he was bringing restricted substances into the country.

HUMAN GROWTH HORMONE Made in the pituitary glandStimulates growth in childrenRegulates metabolism in adultsMedical uses include reversing muscle wastage in Aids patientsHas been promoted as an anti-ageing treatmentJintropin is a synthetic version of the hormone

Read more

But an X-ray of bags belonging to his entourage uncovered the bottles of Jintropin, which is made by Chinese firm GeneScience pharmaceuticals.

"You have not been validly prescribed the goods by a medical practitioner for any medical condition suffered by you and for which the goods are recognised medical treatment," Stallone was told in a customs document submitted to the court.

The vital ingredient in Jintropin is somatropin, which is advertised as reducing body fat, boosting muscle mass, improving sexual prowess and regenerating major organs. [←]

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16.05.2007 - Technik

Der Ofen-Kühlschrank-Generator

Forscher entwickeln Multifunktionsgerät für Entwicklungsländer

Britische und amerikanische Forscher haben ein Multi-

funktionsgerät zum Kochen, Kühlen und zur Stromerzeugung entwickelt. Das SCORE genannte Gerät wird mit Holz oder anderen lokal verfügbaren Biokraftstoffen betrieben und soll die Lebensbedingungen von Menschen in Entwicklungsländern verbessern. Der Apparat ist so konzipiert, dass er für die einfache Bevölkerung erschwinglich ist. Nach Angaben der Wissenschaftler um Projektleiter Paul Riley von der Universität von Nottingham soll SCORE in etwa fünf Jahren auf den Markt kommen.

Das Multifunktionsgerät arbeitet nach dem Prinzip der Thermoakustik. Dabei wird während der Verbrennung des Holzes eine Schwingung erzeugt und in mechanische Energie umgewandelt. Läuft der Prozess in umgekehrter Richtung ab, können die Schallwellen einem Körper Hitze entziehen und so für Kühlung sorgen. Motoren auf Basis der Thermoakustik kamen bisher eher in hoch spezialisierten Technologien zum Einsatz, etwa in Satelliten, Raumschiffen oder Militärfahrzeugen. Doch Thermoakustik-Geräte sind im Prinzip einfach aufgebaut und können auch für simplere Anwendungen preisgünstig hergestellt werden, betont Scott Backhaus, einer der Projektteilnehmer.

Die aktuelle Entwicklung besteht aus zwei Motoren, die durch die Schallwellen betrieben werden. Das brennende Holz erhitzt ein mit Gas gefülltes Rohr, das sich in einem kalten Bereich immer wieder abkühlt und dabei in Schwingung gerät wie Luft in einer Orgelpfeife. Mit dieser Bewegung lässt sich Strom erzeugen umgekehrt wie bei einem Lautsprecher, bei dem elektrischer Strom in Vibrationen umgewandelt wird. Der zweite Motor transportiert Hitze aus einer Kühleinheit, die mit dem kleinen Kocher verbunden ist. Der Ofen ist so weit von der Kühleinheit entfernt, dass die beiden Funktionen sich nicht gegenseitig stören.

Der Apparat benötigt keinen

zusätzlichen Strom, sondern nur Holz als Brennmaterial. Deswegen eigne sich SCORE für den Einsatz in Entwicklungsländern, wo die Stromversorgung gerade in ländlichen Gebieten nur sehr unzureichend funktioniert und viele Menschen ohnehin mit Holz kochen, so die Forscher.

Das Ziel des Projektes ist es nicht, das Gerät technisch immer mehr weiterzuentwickeln. Vielmehr sei es notwendig, dass die lokalen Unternehmen das Gerät selbst herstellen können und es für die betreffenden Menschen erschwinglich ist. Die Wissenschaftler führen bereits Gespräche mit Regierungen einiger Entwicklungsländer über die Einführung in den Alltag der Bevölkerung.

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16.05.2007 - Medizin

Eine Durchfallimpfung, die auf der Zunge schmilzt

Forscher entwickeln dünne Blättchen für den Einsatz in Entwicklungsländern

Amerikanische Studenten haben die Grundlagen für ein System entwickelt, mit dem selbst Säuglinge einfach und schmerzlos gegen Durchfallerkrankungen geimpft werden können: Der Impfstoff wird in ein hauchdünnes folienartiges Blättchen eingebaut, das auf die Zunge gelegt wird und sich bei Kontakt mit dem Speichel so schnell auflöst, dass das Kind den Wirkstoff automatisch schluckt. Zusätzlich wird der Impfstoff mit einer Substanz beschichtet, die ihn widerstandsfähig gegen die Säure des Magens macht und dafür sorgt, dass er erst im Dünndarm aktiv wird. Ein solches System eigne sich sehr gut für den Einsatz in Entwicklungsländern, wo

besonders viele Kinder an Durchfallerkrankungen sterben, erklärt das Entwicklerteam um Christopher Yu. Fertig ist es allerdings noch nicht: Die Entwickler müssen noch eine Möglichkeit finden, Blättchen und Beschichtung mit dem Impfstoff zusammenzubringen.

Die Biomedizinstudenten konzentrierten sich bei ihrer Arbeit auf eine Impfung gegen die so genannten Rotaviren, eine Gruppe von Durchfallerregern, die nach Schätzung der Weltgesundheitsorganisation WHO jährlich mehr als 800.000 Kinder das Leben kosten. Zwar existieren bereits flüssige und gefriergetrocknete Impfstoffe gegen die Viren. Da diese jedoch ständig gekühlt werden müssen, um ihre Wirksamkeit nicht zu verlieren, sind sie beispielsweise für abgelegene Gebiete in Entwicklungsländern nicht gut geeignet. Außerdem tendieren kleine Kinder dazu, unbekannte Flüssigkeiten sofort wieder auszuspucken.

Diese Nachteile treten bei der Blättchen-Impfung nicht auf, so die Tüftler. Die Blättchen sind leicht zu transportieren, benötigen keine Kühlung und haften bis zum Auflösen an der Zunge, so dass sie nicht ausgespuckt werden können. Allerdings konnte das Team für die Herstellung der Folien nicht auf die bereits angewendeten Verfahren zurückgreifen, da die dort verwendeten hohen Temperaturen und scharfen Lösungsmittel den Impfstoff zerstören würden. Es gelang ihnen jedoch, den Prozess so zu modifizieren, dass sowohl Produktion als auch Trocknung der Blättchen bei Raumtemperatur stattfinden. Gleichzeitig fanden die Studenten ein biologisch verträgliches Polymermaterial, das sich in ihre Blättchen einbauen ließ und dessen Eigenschaften vom pH-Wert abhängig sind. Darin, so ihre Vorstellung, soll später der Impfstoff eingekapselt werden, so dass er vor der Magensäure geschützt ist und erst im neutralen pH-Bereich des Dünndarms freigesetzt wird.

Als nächstes will das Team nun darangehen, einen Rotavirus-Impfstoff eines US-Herstellers mit dem Polymer zu beschichten und ihn dann in die Blättchen zu integrieren. Die Entwickler haben das System bereits zum Patent angemeldet und sind zuverlässig, ihre Folien-Impfung noch in diesem Jahr in ersten Tierversuchen testen zu können.

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16.05.2007 - Astronomie

Dunkle Materie im Ring

Forscher entdecken ungewöhnliche Struktur aus der unsichtbaren Materie

Ein internationales Astronomenteam hat mit dem Weltraumteleskop "Hubble" in einem fünf Milliarden Lichtjahre entfernten Galaxienhaufen einen Ring Dunkler Materie entdeckt. Der Ring mit einem Durchmesser von 2,6 Millionen Lichtjahren entstand bei dem gewaltigen Zusammenstoß zweiter Galaxienhaufen und weist eine wellenartige Struktur auf wie ein Teich, in den ein Stein gefallen ist. Die Forscher um Myungkook Jee von der Johns-Hopkins-Universität in Baltimore erhoffen sich von der Entdeckung neue Erkenntnisse über die unsichtbare Dunkle Materie, die Astronomen und Physikern seit langem Rätsel aufgibt.

Auf den Ring waren die Forscher aus den USA, Israel und Spanien gestoßen, als sie im Galaxienhaufen mit dem Namen ZwCl0024+1652 die Verteilung Dunkler Materie untersuchten. Diese außergewöhnliche Materieform lässt sich nur indirekt beobachten, denn sie sendet kein sichtbares Licht oder sonstige elektromagnetische Strahlung aus. Bei der Beobachtung machen sich Forscher zunutze, dass Dunkle Materie den Gesetzen der Gravitation unterliegt

und daher auch auf Licht eine Anziehungskraft ausübt. So kann eine Ansammlung Dunkler Materie Licht krümmen wie eine Linse oder eine Wasseroberfläche, durch die ein Betrachter auf den Grund eines Teiches blickt.

Die Forscher um Jee beobachteten mit dem Hubble-Teleskop Galaxien, die hinter der Dunklen Materie liegen, und stießen so auf deren unerwartete ringförmige Zusammensetzung. "Zunächst glaubte ich an eine Fehlmessung", berichtet Jee von der Entdeckung. In früheren Studien hatten Wissenschaftler zwar bereits Ansammlungen Dunkler Materie beobachtet, doch als so eigenständige und von weiterer Materie unabhängige Struktur war die Materieform noch nie beobachtet worden. Die Wissenschaftler wollen dies nun nutzen, um mehr über die Eigenschaften der rätselhaften Substanz zu erfahren, deren innere Zusammensetzung noch immer völlig unbekannt ist.

Der Ring könnte bei der Kollision zweier Galaxien entstanden sein, die sich laut Messungen von Astronomen der Universität Bonn vor ein bis zwei Milliarden Jahren im betreffenden Galaxienhaufen ereignete. Bei diesem Zusammenstoß wurde die Dunkle Materie zunächst im Zentrum zusammengezogen, dann jedoch wieder ins All herausgeschleudert, ergaben Computersimulationen der Forscher um Jee. Die Bewegung kam schließlich durch Gravitationskräfte zum Stillstand, so dass die ringförmige Struktur übrigblieb.

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16.05.2007 - Physik

Die fünfte Naturkraft

Forscher vermuten, dass eine bisher unentdeckte Fundamentalkraft Sternenhaufen zusammenhält

Die Dunkle Materie, die gängigen Theorien zufolge für die Stabilität von Galaxien notwendig ist, könnte möglicherweise einer bisher nicht beschriebenen, fundamentalen Naturkraft unterworfen sein. Das glauben zwei Physiker der New York University, die Anzeichen der Kraft durch eine genaue Studie des Zusammenpralls zweier Kugelsternhaufen entdeckt haben wollen. Sollte sich die Theorie der Forscher durch weitere kosmologische Untersuchungen bestätigen, würde das Gebäude der Physik einen beträchtlichen Anbau benötigen.

Glennys Farrar und Rachel Rosen untersuchten in ihrer Studie den Durchgang eines relativ kleinen Kugelsternhaufens durch einen viel größeren mithilfe eines Röntgensatelliten. Beobachtungen dieses Zusammenpralls, der sich in drei Milliarden Lichtjahren Entfernung abgespielt hat, ergaben, dass sich die dadurch ausgelöste Druckwelle mit einer Geschwindigkeit von etwa 4740 Kilometern pro Sekunde von dem großen Sternenhaufen wegbewegt.

Die beiden Forscher haben nun berechnet, dass diese Geschwindigkeit nicht durch die Wirkung der Schwerkraft allein erreicht werden kann. Da die anderen drei fundamentalen Naturkräfte die elektromagnetische sowie die Starke und Schwache Wechselwirkung die Dynamik dieses Vorgangs nicht beeinflussen, spekulieren die Forscher, dass eine fünfte, bisher nicht beschriebene Elementarwechselwirkung zwischen der Dunklen Materie in den beiden Sternenhaufen am Werk sein muss.

Die Stärke der neuen Kraft liegt der Studie nach zwischen 40 und 120 Prozent der Stärke der Gravitation, so die Forscher. Allerd-

ings gestehen sie ein, dass ihre theoretische Analyse allein bei weitem nicht zur Bestätigung der Existenz einer neuen Naturkraft ausreicht. Insbesondere sind die mit dem Röntgensatelliten gesammelten Daten einer relativ hohen Ungenauigkeit unterworfen, die erst noch durch weitere Untersuchungen ausgeräumt werden muss.

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Parabolic Trough Solar Collector Systems Made More Energy Efficient

Science Daily — A mirror alignment measurement device, invented by Rich Diver, a researcher at Sandia National Laboratories, may soon make one of the most popular solar collector systems, parabolic troughs, more affordable and energy efficient.

Sandia researcher Rich Diver sets up a device he has developed to calibrate trough-type solar dish collectors to maximize the amount of sunlight they capture. (Credit: Photo by Randy Montoya)

Diver's new theoretical overlay photographic (TOP) technology is drawing interest from the solar industry because of its simplicity and the need to find solutions for global warming.

"TOP alignment could cure a significant problem with trough systems – inaccurate mirror alignment that prevents sunlight from precisely focusing on solar receivers," Diver says. "Improperly aligned mirrors result in lost and wasted energy."

Working with Diver on the project is Tim Moss, who serves as project manager and primary software and hardware developer.

Parabolic troughs use mirrored surfaces curved in a parabolic shape. The mirrors focus sunlight on a receiver tube running the length of the trough. Oil runs through the focal region where it is heated to high temperatures and then goes through a heat exchanger to generate steam. The steam is then used to run a conventional power plant.

The world's largest parabolic trough facilities, located in the Mojave Desert near Barstow, Calif., consist of nine plants producing 354 megawatts of power at peak output. The plants range in size from 14 to 80 MW. The 30 MW plants near Kramer Junction, for example, each have about 10,000 modules with each module comprising 20 mirrors. A 64 MW trough plant, which will supply power to Las Vegas, Nev., is expected to go on line soon. A 1 MW plant also exists in Arizona.

An issue with parabolic trough systems, says Diver, has been lack of accurate mirror alignment that prevents maximum energy efficiency.

Borrowing from variations on methods used to align mirrors in solar dish systems, Diver came up with TOP alignment, an optical approach to rapidly and effectively evaluate the alignment of mirrors in parabolic trough power plants and prescribe corrective actions.

"This method could be used during trough power-plant construction to improve the performance of existing power plants or for routine maintenance," Diver says. "It should be an ideal mirror alignment technique because it is simple to set up, requires a minimum of sophisticated hardware, and does not require removal of the receiver."

The TOP approach consists of a pole with five cameras positioned along it. Four of the cameras take digital photographic images of the four rows of mirrors on the parabolic module. The middle camera photographs the module's center, where a boresight gauge is attached, which is used to vertically center, or "boresight," the pole to the trough module.

Vector algebra and projection theory are then used to predict the theoretical projected image of the receiver for perfectly aligned mirrors. The calculated theoretical image of the receiver for perfectly aligned mirrors is overlaid on the photographs of the actual receiver image position in the mirrors. The images and the actual image are compared to show how the mirrors should be aligned. It then becomes a matter of adjusting the mirrors to the

correct alignment.

"This whole process is very simple," Diver says. "Once the mirrors are aligned, the energy savings start. It's like picking money off the ground. And the mirrors are aligned for the life of the plant."

To address the needs of commercial-scale trough power plants such as those at Kramer Junction, Calif., Diver and Moss mounted a TOP fixture on a trailer pulled by a government van that can safely be moved along highways to parabolic power plants. The cameras would photograph the modules at the different plants. The images would be processed later, and work orders detailing alignment adjustment would be created. Alignment adjustments could be made when convenient, even while the plant is operating.

Diver says that people have been trying to come up with ways to align mirrors in parabolic modules for at least 20 years, but their methods have always been "cumbersome and took too long."

He and Moss have developed the TOP technique using a 20-year-old parabolic module located at the Sandia National Solar Thermal Test Facility in Albuquerque. The module is the same as those at Kramer Junction. They did "shakedown" testing of TOP at a trough plant outside Tucson, Ariz., in March and October 2006. The next steps will be to test the system at Kramer Junction later this year and eventually license the technology to parabolic trough power plant operators and/or trough project developers.

Sandia is a National Nuclear Security Administration (NNSA) laboratory.

Note: This story has been adapted from a news release issued by DOE/Sandia National Laboratories.

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Simple Equations Track Listeria Trails

Science Daily — Circles, slaloms, figure eights, and loop-the-loops

– biologists studying the motion of Listeria monocytogenes sensed that these paths were related, but they didn't have a good way to define what fit in and what didn't. A remarkably simple new mathematical description, published online in the Proceedings of the National Academy of Sciences, reproduces all these shapes with just one pair of equations and only two key variables. Besides helping to identify bacterial mutants, the equations suggest which mechanisms could be driving the motion.

The mathematics of natural motion: Two mathematical equations (represented by red lines) can describe all the observed motions of the bacterium Listeria monocytogenes (blue or green lines). Mutant strains do not move in ways predicted by the equations, allowing researchers to identify and study non-standard microbes. (Credit: Vivek Shenoy/Brown University)

Last winter, Vivek Shenoy, an associate professor of engineering at Brown University, was matched with Julie Theriot, an associate professor at the Stanford School of Medicine, at a biophysics "boot camp" run by Rob Phillips at the California Institute of Technology. Theriot studies Listeria, a disease-causing bacterium that hijacks the actin network of an infected cell to propel itself. Embedded in a network of actin fibers, the bacterium keeps adding actin molecules at its back end, pushing itself forward and leaving behind an actin tail tracing its path.

Those paths intrigued Shenoy as soon as he saw Theriot's movies of Listeria traveling in the two-dimensional world of a microscope slide. Some bacteria spun in circles, others followed a sine curve, some followed a path like the cloverleaf exchange on a highway. The circles, he thought, were easy to explain. If an actin filament pushed just a bit off center, the bacterium would go in circles, like a swimmer who paddles harder on one side.

With a bit more thought, he cracked the sine curve. What if that off-center point rotated around the axis of motion? When it pushed harder on the right,

the bacterium would move to the left; when it pushed to the left of center, the cell would move to the right. If the bacterium moved forward faster than it curved around, a swerving pattern would result.

The clincher came as Shenoy worked out the mathematics to describe this kind of motion. The exact same equation, it turned out, also described the figure-eights, cloverleaves and other looping patterns they had observed. In fact, nearly every time they recorded a new pattern, they found it fit the equation. An equation that can predict observations clearly has a lot going for it, but a mathematical description is not the same thing as a biological mechanism.

"If we can understand things is a simpler setting, such as this one," said Shenoy, "then we can use those insights to study more complex phenomena."

As the team works to fully explain the motion they observe, Shenoy's equations can narrow the possibilities, ruling out mechanisms that cannot generate both the circular and the spinning component of the motion.

With just two variables – an offset distance and an angle relative to the forward motion – they could reproduce every track they saw, except those produced by mutant microbes that Theriot introduced. The mutants stood out as different. They produced a skidding kind of pattern instead of the graceful curves that most of the bacteria traced.

"The human visual cortex is really good at seeing patterns," said Theriot, "but this gives us a quantitative framework for asking questions that before we could only ask qualitatively."

Being able to pinpoint just how different the mutants are is valuable, said Theriot, because they often are less infectious than normal Listeria. Once Listeria invades a host cell, it uses the actin mechanism to move from cell to cell, never again exposing itself to the organism's extracellular immune system. A microbe with a deficient movement mechanism is a microbe with less ability to invade neighboring cells.

The National Science Founda-

tion funded the research.

Note: This story has been adapted from a news release issued by Brown University.
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New Unattended Water Sensor Capable Of 24/7 Detection Of Toxins, Bacteria In Water Supplies

Science Daily — In late 2004, Sandia National Laboratories announced a multiyear research agreement with Tenix Investments Pty. Ltd., a partnership that offered the vision of a safer future for the nation's water supplies. The collaboration aspired to develop a method for constantly monitoring water for biological pathogens including biotoxins, bacteria, viruses, and protozoa. Now, just two-and-a-half years into the project, Sandia researchers have a working device in place and have demonstrated that the initial dream is, indeed, now a reality.

Sandia engineer Marci Markel displays the inside of the unattended water sensor. The UWS diagnostic instrumentation package is composed of analytic instruments, pumps, tubes, and small reservoirs to handle minute amounts of fluid. The technology is largely based on Sandia's well-known µChemLab. (Credit: Image courtesy of Sandia National Laboratories)

Sandia's unattended water sensor (UWS) has successfully undergone testing at a large Bay Area water utility for more than a year and, just recently, has been deployed to a municipal water station in Arizona for additional observation and adjustments. Staff will perform periodic maintenance and troubleshooting on the system, which is expected to further demonstrate the viability of unattended water monitoring.

"The initial research and development was focused on defining the system, identifying its core capability, and developing a concrete tool that does what we wanted it to do," said Chris Macintosh, Tenix Investment's engi-

neering manager. "Having now met those objectives and proven the capability of the technology, the next phase of the design will be to take this knowledge and develop a product suitable for use by the water industry." Macintosh said that other applications for the UWS include monitoring of agricultural water for contaminants, as well as water provided to sports stadiums and other venues.

Sandia engineer Marci Markel displays the inside of the unattended water sensor. The UWS diagnostic instrumentation package is composed of analytic instruments, pumps, tubes, and small reservoirs to handle minute amounts of fluid. The technology is largely based on Sandia's well-known µChemLab.

Field-deployable detection technologies in the nation's water supplies have become a high priority in recent years. "Biological monitoring devices are essential to assess the type and extent of contamination in a suspected water security event," according to an upcoming report by the National Research Council's Water Science and Technology Board. "A broader range of innovative and developing detection technologies for biological agents, including methods that are field deployable. . . should be considered and evaluated," the report asserts.

Sandia's UWS (measuring 17 inches high by 14 inches wide by 7 inches deep) is a box composed of analytic instruments, pumps, tubes, and small reservoirs to handle minute amounts of fluid. The reservoirs, playfully referred to by Sandia researchers as the "juice bar," contain chemical buffers, fluorescent dyes, proteins, and separation gel. This innovative diagnostic instrumentation package, based on Sandia's well-known MicroChemLab technology, is mounted near the water supply. The box is connected to a small, submerged probe that transports the sample into the system.

Largely due to the automated sample preparation that is the hallmark of the device, the UWS is currently able to achieve sam-

ple analysis in just 12 minutes — a marked improvement over the original goal of 30 minutes or less.

According to Brent Haroldsen, who serves as Sandia's lead engineer on the project, the UWS is currently able to detect protein toxins such as SEB, botulinum, and ricin. Haroldsen said the next phase of the Sandia activities will be to expand the device's detection capability to include bacteria such as E. coli and protozoa such as Cryptosporidium.

"To detect those kinds of pathogens, we will incorporate more advanced sample preparation techniques, which we have already developed for other projects," said Haroldsen. "This requires us to solubilize, or "break up" the cell into individual proteins. Detecting organisms also requires improved signature recognition capability to accommodate their natural variation."

Sandia researchers, said Haroldsen, need to configure a working database of organism signatures to allow them to accurately distinguish the signatures from one another. He and his Sandia colleagues are looking at algorithm approaches that will help define the level of specificity the UWS will be able to achieve. One such method, for example, is the Bayesian approach (Bayesian analysis, according to the International Society for Bayesian Analysis, is a well-known approach to data analysis that casts statistical problems in the framework of decision making). Haroldsen says that the technology used in the UWS could clearly discriminate between types of organisms such as bacteria or viruses, "as long as we appropriately account for their natural variability."

Victoria VanderNoot, an analytical chemist at Sandia who serves as the UWS project's lead scientist, also noted the cost-savings advantages that come with using proteins to differentiate between organisms. "It gets us away from having to use expensive primers or antibodies, which are needed with other techniques like polymerase chain reaction (PCR) or immunoassay,"

she points out.

Haroldsen says that ensuring the reliability of the components used to develop this prototype — which are small and intricate — is a challenge that he and his colleagues have embraced with gusto. Sandia invented many of the components, such as a suite of microfluidic fittings, manifolds, and interconnects, because no commercial products were available to reproducibly handle slight amounts of fluids.

The UWS is expected to operate for at least three months in Arizona. Sandia and its partners would then like to bring the system to an Environmental Protection Agency facility or the U.S. Army's Edgewood Chemical Biological Center, where it can be tested in a real-world environment that includes analysis on bona fide toxic agents situated in authentic water supply conditions. Currently, analysis is conducted in both situations individually (i.e., in a laboratory setting at Sandia or in water supply facilities in Arizona or the Bay Area), but not simultaneously.

"We've made really good progress and have proven that the concept works," Haroldsen said. "We're proud of what we've been able to achieve."

Note: This story has been adapted from a news release issued by Sandia National Laboratories.

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Coral Reefs May Be More Resilient Than Expected

Science Daily — Coral reef bleaching, believed to be one of the detrimental effects of climate change, may receive a welcomed "buffer" through effective local management, according to new research by a team of scientists recording the long-term recovery of coral reefs in Palau and elsewhere.

Bleached coral. (Credit: Image courtesy of Florida Institute of Technology)

"It appears that coral reefs are very resilient and can bounce

back magnificently if subjected to good management practices and 10 years or so of pristine conditions," says Robert van Woesik, one of the authors of a new study showing that reefs off Palau, Micronesia, have recovered surprisingly well from a 1998 "bleaching" event, caused by high sea water temperatures. "The rare piece of good news in the problem of climate change is that good local management practices might aid recovery of coral reefs."

Van Woesik, a professor of biological sciences at Florida Institute of Technology, examined the recovery rates of reefs in Palau during three different periods following the 1998 bleaching – in late 2001/early 2002, late 2002/early 2003, and late 2004/early 2005. Global climate models suggest that Micronesia is particularly vulnerable to climate change over the next millennia, and will be likely subjected to repeated thermal stress events and water temperatures considerably higher than historical averages.

Using underwater digital video cameras, van Woesik and his team examined the rate of coral recovery at 13 different sites, and found that recovery rates increased over time; notably, sheltered bay areas, which suffered less in 1998, appeared to support recovery of outer-reef, "wave-exposed sites," by providing a supply of coral larvae to the damaged reefs. The researchers also found that recovery rates were significantly higher between 2002 and 2004 than between 2001-2002.

Because Micronesia is at a great distance from large human population centers, van Woesik hypothesizes that the coral recovery rate is directly linked to human environmental factors – a promising sign for recovery in other regions.

"Factors such as river pollution, sedimentation, and use changes – such as fishing pressures – are all controllable factors," says van Woesik. "They're added to global effects of greenhouse gas emissions that affect climate change. The take-home message is that we can accelerate the recovery rate of coral reefs by adapting human behav-

ior and reducing local pressure on reefs; this research provides encouragement and incentive for local management.

"Clearly, action is required at both ends of the political spectrum – both globally to reduce greenhouse emissions, but also locally to enhance reef resilience," says van Woesik.

Van Woesik's research appears in the April 2007 issue Coral Reefs, the journal of the International Society for Reef Studies. He will next set up research sites in several other locations, including the Great Barrier Reef and Mexico's Yucatan Peninsula.

Note: This story has been adapted from a news release issued by Florida Institute of Technology.

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Marijuana Vaporizer Provides Same Level Of THC, Fewer Toxins, Study Shows

Science Daily — A smokeless cannabis-vaporizing device delivers the same level of active therapeutic chemical and produces the same biological effect as smoking cannabis, but without the harmful toxins, according to University of California San Francisco researchers.

Results of a UCSF study, which focuses on delivery of the active ingredient delta-9-tertrahydrocannibinol, or THC, are reported in the online issue of the journal "Clinical Pharmacology and Therapeutics."

"We showed in a recent paper in the journal 'Neurology' that smoked cannabis can alleviate the chronic pain caused by HIV-related neuropathy, but a concern was expressed that smoking cannabis was not safe. This study demonstrates an alternative method that gives patients the same effects and allows controlled dosing but without inhalation of the toxic products in

smoke," said study lead author Donald I. Abrams, MD, UCSF professor of clinical medicine.

The research team looked at the effectiveness of a device that heats cannabis to a temperature between 180 and 200 degrees C, just short of combustion, which occurs at 230 degrees C. Eighteen individuals were enrolled as inpatients for six days under supervision in the General Clinical Research Center at San Francisco General Hospital Medical Center.

Under the study protocol, the participants received on different days three different strengths of cannabis by two delivery methods–smoking or vaporization–three times a day.

Plasma concentrations of THC were measured along with the exhaled levels of carbon monoxide, or CO. A toxic gas, CO served as a marker for the many other combustion-generated toxins inhaled when smoking. The plasma concentrations of THC were comparable at all strengths of cannabis between smoking and vaporization. Smoking increased CO levels as expected, but there was little or no increase in CO levels after inhaling from the vaporizer, according to Abrams.

"Using CO as an indicator, there was virtually no exposure to harmful combustion products using the vaporizing device. Since it replicates smoking's efficiency at producing the desired THC effect using smaller amounts of the active ingredient as opposed to pill forms, this device has great potential for improving the therapeutic utility of THC," said study co-author Neal L. Benowitz, MD, UCSF professor of medicine, psychiatry and biopharmaceutical sciences. He added that pills tend to provide patients with more THC than they need for optimal therapeutic effect and increase side effects.

Patients rated the "high" they experienced from both smoking and vaporization and there was no difference between the two methods by patient self-report of the effect, according to study findings. In addition, patients were asked which method they preferred.

"By a significant majority, pa-

tients preferred vaporization to smoking, choosing the route of delivery with the fewest side effects and greatest efficiency," said Benowitz.

Co-authors include Cheryl A. Jay, MD, UCSF neurology; and Starley B. Shade, MPH; Hector Vizoso, RN; and Mary Ellen Kelly, MPH, UCSF Positive Health Program at San Francisco General Hospital Medical Center.

The study was funded by the University of California's Center for Medicinal Cannabis Research.

Note: This story has been adapted from a news release issued by University of California - San Francisco.

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Nuclear Magnetic Resonance Advance Relies On Microscopic Detector

Science Daily — Detecting the molecular structure of a tiny protein using nuclear magnetic resonance (NMR) currently requires two things: a million-dollar machine the size of a massive SUV, and a large sample of the protein under study.

MIT researchers created this NMR probe, which is smaller than a credit card and decreases by several orders of magnitude the amount of a protein needed to measure the protein's structure. (Credit: Yael Maguire)

Now, researchers from MIT's Center for Bits and Atoms report the development of a radically different approach to NMR. The new highly sensitive technique, which makes use of a microscopic detector, decreases by several orders of magnitude the amount of protein needed to measure molecular structure.

The new technology could ultimately lead to the proliferation of tabletop NMR devices in every research laboratory and medical office. Among other things, such devices could prove invaluable in diagnosing a variety of diseases.

"It's revolutionary," said Shuguang Zhang, one of the authors and associate director of MIT's Center for Biological Engi-

neering. "It's not just incremental progress."

The research team reports the work in the online and print editions of the Proceedings of the National Academy of Sciences the week of May 14. Lead author Yael Maguire, a former MIT graduate student who earned his Ph.D. for this work, will give a talk on it May 16 at the VII European Protein Symposium in Stockholm.

NMR, along with X-ray crystallography, is commonly used to determine the structure of proteins and other molecules. NMR probes normally consist of a coil that surrounds the sample being studied. The coil creates a magnetic field that interacts with the nuclear spin of atoms in the sample, and those interactions reveal how the atoms are connected.

With current NMR machines, you need about 1017 (more than a million billion) molecules of a protein to determine its molecular structure. Some researchers have tried to make tiny coils to study smaller samples, but it has proven very difficult to scale these to small sizes to analyze tiny samples and to create high throughput methods.

Instead, research originally aimed at improving quantum computing led the MIT researchers to a completely different approach based on guiding waves.

"We were trying to get away from coils and see if we could find a new way to look at it," said Maguire, now a visiting researcher at MIT and chief technology officer of Cambridge-based ThingMagic.

How it works

The new approach starts with technology similar to the Wi-Fi antennas found in laptop computers. These antennas consist of a flat strip of metal. Using a laser, the MIT team made a microscopic defect (a slot) in such a conducting structure, known as a strip line. In that location a little bit of the magnetic field leaks out of the line, creating a uniform, concentrated magnetic field. That field allows the slot to be used as an NMR probe, in place of a coil.

The detector described in the PNAS paper is a plastic card about one-third the size of a

credit card and is easy and inexpensive to produce. To get structural information, the new detector must still be placed in a massive machine housing a superconducting magnet, just as the coil probes are. However, the MIT researchers anticipate that the microslot's small sample volume will allow much smaller tabletop spectrometers to be developed.

Zhang said such NMR devices could prove especially valuable in diagnosing diseases caused by misfolded proteins, such as Alzheimer's and Huntington's, or prion diseases like Creutzfeld-Jakob disease. It could also allow early detection of glaucoma and cataracts, which could be diagnosed by testing a single teardrop. "You could detect it so early it will become treatable," Zhang said.

The new technology could dramatically improve the rate of biomedical research, because it can take up to a year to obtain enough material for an NMR study using the coil probes, said co-author Professor Neil Gershenfeld, director of MIT's Center for Bits and Atoms. That is "a major limiting step in drug discovery and studying biological pathways," he said.

The probes could also be used to make portable devices for diagnostics or soil analysis. And because the smaller devices are cheaper to make, they should be affordable even in developing countries where NMR machines are now rare, said Zhang.

Asking big questions

Maguire got the idea for the project after talking to Zhang and asking him what kind of new device would make the biggest impact in biology. For Zhang, the answer was immediate: improving NMR.

Elucidating structure is critically important for biologists because structure determines function, said Zhang. The goal for the project was to create an NMR detector sensitive enough to detect structural information using the amount of protein in a spot on a two-dimensional gel used for electrophoresis (about 1014 molecules).

The task was daunting. "Nobody in their right mind would try to take one spot from that

gel and get a molecular structure from it," said Zhang.

However, Zhang said that he believes in the sentiment expressed by Francis Crick, the legendary biologist who determined the double helix structure of DNA along with James Watson: You need to ask big questions in order to get big answers.

Zhang adds that the project probably never would have happened without interdisciplinary collaboration: "Biologists would never have thought of this type of machine, but a physicist would never have asked the question," he said.

Before starting this project, Maguire and Gershenfeld, with co-author Isaac Chuang, had already used NMR to create early quantum computers. Their effort to improve the computing capabilities turned out to be surprisingly relevant to detecting molecular structures, an "unexpected spinoff," said Gershenfeld.

"We were not at all thinking about biology, but this turned out to be exactly what was needed to improve biological sensitivity," Gershenfeld said.

The research was funded by the National Science Foundation.

Note: This story has been adapted from a news release issued by Massachusetts Institute of Technology.

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New Way To Calculate Speed Of Bacterial Sex Developed

Science Daily — Scientists from the University of California-Davis recently developed a mathematical model of the rate of gene transfer among bacteria in the environment. Researchers believe this new model improves upon existing models by taking into account characteristics of the natural subsurface environments, the typical bacteria hangouts. This model will help scientists to quantify the spread of important bacterial traits.

The swapping of genetic material between bacteria leads to bacterial adaptation and evolu-

tion; however, bacterial adaptation is a double-edged sword for the environment. While the genetic exchange among bacteria can lead to positive environmental outcomes, such as improved bioremediation qualities, bacterial adaptation can also create potentially harmful bacteria that are resistant to antibiotics and increase gene flow from genetically modified organisms to native soils. By developing a real-life model of bacterial gene transfer, UC-Davis researchers hoped to gain insight into the rates of bacterial adaptation in the environment. They report their findings in the May 2007 issue of Vadose Zone Journal in a special section on soil biophysics.

Researchers believe that one of the major mechanisms for the transfer of genetic information in the environment occurs through a conjugation. According to study co-authors, Timothy Ginn and Arash Massoudieh, donor bacteria cells act like vampires, latching onto nearby unsuspecting non-related bacteria cells. Just as the bite from a vampire leads a victim to be transformed into a vampire, the donor bacteria's "bite" injects genetic material into the recipient, causing the recipient to become a donor. The controlling rates of conjugative gene transfer and the kinetics of conjugative gene transfer are unknown.

The study of conjugative gene transfer centers on biofilms, a coat formed by colonizing bacterial cells.

"While scientists have studied [conjugation] in the lab, and wondered about its impact in nature, current computer models of conjugation were pretty basic," said Ginn. UC-Davis researchers set out to build a better model that incorporated the experiences of bacteria in nature, such as wait times associated with conjugations, bacterial cell motion and transport in ground water, and the colonization of soil surfaces by bacterial cells.

Using a previously established conceptual framework of conjugation processes in an isolated environment, researchers created a new mathematical model of bacterial transport and conjugation that focused on sub-

surface bacteria colonizing surfaces, such as sand and soil grains. The UC-Davis research was funded by the National Science Foundation.

The new model was then used to re-interpret previously published conjugation data. The findings revealed that bacterial transport and colonization of surfaces is as important a controlling factor for gene spread as was the rate of conjugation itself.

It is important to consider all natural processes together when trying to predict rates of gene transfer, said Ginn.

"The model gives us a new tool for designing new experiments that reflect gene transfer in the real world, including such things as transport of cells in porous media of soils and aquifers," explained Massoudieh. "It also can be used for 'extrapolative' modeling to predict rates of gene transfer in certain cases, mainly environmental science scenarios, but also with relevance to some medical scenarios."

Note: This story has been adapted from a news release issued by American Society of Agronomy.

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Biotechnology Solves Debate Over Origin Of European Potato

Science Daily — Molecular studies recently revealed new genetic information concerning the long-disputed origin of the "European potato." Scientists from the University of Wisconsin-Madison, the University of La Laguna, and the International Potato Center used genetic markers to prove that the remnants of the earliest known landraces of the European potato are of Andean and Chilean origin. They report their findings in the May-June 2007 issue of Crop Science.

Americans each eat about 140 pounds of potatoes a year in fresh and processed forms. (Credit: Photo by Scott Bauer; courtesy of USDA/Agricultural Research Service)

"European potatoes," the cul-

tivated potatoes first appearing in Europe and later spreading worldwide, were first recorded outside of the Americas in 1567 on the Canary Islands Archipelago. Today, scientists believe that the remnant landraces of these early potatoes still grow in on the Canary Islands.

For years, researchers have debated the birthplace of the European potato. While some scientists hypothesized that landrace introductions originated in the Andes, others believed that the introductions came from Chile. While there are multiple lines of evidence to support each theory, the Andean introduction hypothesis stems from the belief that the Canary Islands landraces are solely of Andean origin. Although almost all current European potatoes have Chilean traits, the Andean hypothesis supposed that these potatoes arose from crosses with Chilean potatoes as breeding stock after the Irish potato famine in the 1840s.

Using molecular markers, the scientists found that the Canary Island landraces possessed both Andean and Chilean types, as well as possible hybrids of the two.

"In combination with other historical, molecular, agronomic, and crossing data, these findings support a hypothesis of multiple early introductions of both Andean and Chilean germplasm to the Canary Islands and to Europe," said Dr. David Spooner, co-author of the Crop Science study.

Spooner and others speculate that the early European potato was selected from Chilean introductions before the 1840s because they were better able to reproduce in long-day conditions, in contrast to Andean potatoes that were short-day adapted.

"The results of these studies are of interest not only to evolutionists but also for breeders. Years of effort were made to artificially recreate the European potato from Andean landraces yet it may have originated from Chile," said Spooner. "If the true origin of the European potato was from Chile, rather from the Andes, it shows the

value of plant evolutionary studies to understand and complement breeding programs".

Spooner and other scientists now plan to further investigate the origin of the European potato from DNA extracted from herbarium specimens of cultivated potatoes collected in Europe before 1845.

"The results of these studies are providing data to rewrite the history of the cultivated potato and will aid breeders to better interpret the true pedigrees of our modern potato," said Spooner.

Note: This story has been adapted from a news release issued by American Society of Agronomy.

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Brazil Demonstrating That Reducing Tropical Deforestation Is Key Win-win Global Warming Solution

Science Daily — Tropical deforestation is the source of nearly a fifth of annual, human-induced emissions of heat-trapping gases to the atmosphere. Recent studies by Woods Hole Research Center scientists demonstrate that during years of severe drought, tropical rainforest fires can double emissions from tropical forests. Now, an international team of forest and climate researchers has found that halving deforestation rates by mid-century would account for 12 percent of total emissions reductions needed to keep concentrations of heat-trapping gases in the atmosphere at safe levels. This work is profiled in a recent issue of Science.

A policy mechanism is needed that rewards those tropical nations that succeed in lowering their emissions of heat-trapping gases from deforestation and forest degradation. This is a par-

ticularly urgent need since most of these emissions are associated with only modest economic gains, but provoke high losses of biodiversity. Such a policy mechanism is now under discussion in the UN Framework Convention on Climate Change. The Compensated Reduction of greenhouse gas emissions from tropical forests (CR) would provide payments to those tropical nations that succeed in lowering their emissions from deforestation and tropical degradation, beginning during the second compensation period of the UNFCCC (beginning 2013).

This proposal has now been endorsed by the Coalition for Rainforest Nations, which currently represents 29 tropical countries who support the CR proposal, and which formally advanced the CR proposal during the Conference of the Parties in Montreal, 2005, and will be voted on by the UNFCCC delegation in Bali Conference of the Parties in December.

"More than any other country, Brazil has demonstrated that it is feasible to reduce greenhouse gas emissions from tropical deforestation", says co-author Daniel Nepstad, Senior Scientist at the Woods Hole Research Center. He, along with colleague Marina Campos, showed that since the beginning of 2004, Brazil has created more than 20 million hectares of parks, extractive reserve, and national forests in the Amazon region, and many of these protected areas are located in the agricultural frontier. These protected areas, if fully enforced, will prevent one billion tons of carbon from being transferred to the atmosphere through deforestation by the year 2015. Brazil's deforestation rates have been cut nearly in half in recent years through a combination of government intervention and economic trends.

"We are encouraging the Brazilian government to fully endorse the Compensated Reduction proposal", states Paulo Moutinho, Scientist and Coordinator of the Climate Change Program of the Amazon Institute for Environmental Research (IPAM), a non-governmental research in-

stitute in Brazil. CR would help Brazil offset the costs of slowing deforestation rates. In Brazil, the cost of reducing deforestation emissions by half will be less than $5 per ton of carbon dioxide, as estimated in an unpublished study of IPAM and the Woods Hole Research Center.

The CR proposal may be far more urgent than the Science paper would suggest, since tropical deforestation rates will probably increase in the coming years as worldwide demand for biofuel and grain pushes agriculture deeper into tropical forests.

"Slowing tropical deforestation won't, by itself, solve the climate problem," said Dr. Peter Frumhoff, co-author and organizer of the study and Director of Science and Policy at the Union of Concerned Scientists. "But for many developing countries, it is their largest source of emissions. Climate policymakers have a historic opportunity to help developing countries find economically viable alternatives to deforestation and participate in the global effort to address climate change."

Note: This story has been adapted from a news release issued by Woods Hole Research Center.

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New Tool To Shed Light On, Improve Teen Mental Health Services

Science Daily — Can you imagine an archer trying to improve her accuracy by practicing blindfolded, never seeing how close she was to hitting her target, never getting any information to help correct her aim"

Until now, doctors and clinicians treating teens with mental health concerns were in the same position as that blindfolded archer, providing services week after week with no objective and systematic feedback about the effects of their treatment. A new tool developed by Vanderbilt Peabody College of education and human development researchers will remove that blindfold by providing ongoing feed-

back to service providers, with a goal of enabling mid-course treatment corrections. The tool is called the Peabody Treatment Progress Battery, or PTPB.

"There are laboratory studies that show treatments are very effective with youth who have mental health concerns, but when we look in the real treatment world we are hard pressed to identify services that are effective," Leonard Bickman, director of the Center for Evaluation and Program Improvement and associate dean for research at Peabody College, said. Bickman led the team that developed the PTPB. "The PTPB offers a revolutionary opportunity to improve mental health services. Mental health professionals need to know if they are succeeding during treatment and, if they are not, they need to know what to change. The PTPB gives them that information."

The PTPB includes 10 measures of the responses of youth aged 11-18 years to mental health interventions. All were rigorously evaluated to ensure their clinical relevance. They include factors such as a child's sense of hopefulness, their relationship with the therapist, their expectations of treatment and their satisfaction with services.

"Providers of children's mental health services have long expressed their frustration to the research community at the lack of a comprehensive, feasible and scientifically developed set of measures for assessing process and outcome. Existing measures have been too time consuming, too limited in the domains and perspectives assessed, too costly, or insufficient with regard to scientific validity," Abram Rosenblatt, professor and researcher in the Department of Psychiatry at University of California, San Francisco, said. "The PTPB is the first comprehensive set of measures that can be used routinely to assess process and outcomes of treatment services across multiple domains and perspectives and it meets the highest level of scientific rigor. This is a landmark contribution to children's mental health services and research."

In addition to monitoring the

teen's response to treatment, the PTPB also evaluates how the child's caregiver is managing stress and their perception of treatment progress, as well as the clinician's own evaluation of progress. It is this comparison of what the clinician thinks is effective with what the child and his or her caregiver reports that Bickman believes makes the battery an especially powerful tool.

"Therapy isn't carpentry – you can't just look at your work and determine if you've met your goals. You can't get accurate feedback from the task itself, so you need to collect feedback in a systematic way," he said. "Use of the PTPB will provide feedback that is hard to disregard, and will also insert some accountability for producing results into the mental health system that currently is not there."

The PTPB takes approximately five to eight minutes a week per patient. It was designed to apply to most types of treatment and was written at a fourth-grade reading level in English and Spanish. It is available online free of charge from Vanderbilt at http://peabody.vanderbilt.edu/PT

"After years of trying to find a clinical measurement system that was both practical and valid, the PTPB is both of those and more," Natasha S. Walsh, vice president of Clinical Services for Providence Service Corporation, said. "Our clinicians are getting information they are able to use to inform and enhance treatment. Our supervisors are getting information they can use to help the clinicians grow into better clinicians. Our agency is getting the information on clinical outcomes and processes needed to improve the quality of our services. Our counselors have said 'it's giving me information I never would have gotten.'"

Development of the PTPB was partially funded by the National Institute of Mental Health. Bickman is a Vanderbilt Kennedy Center for Research on Human Development investigator.

Note: This story has been adapted from a news release issued by Vanderbilt University.

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Marine Reserves Could Save Coral Reefs

Science Daily — Threatened coral reefs could be given a helping hand by establishing marine reserves, according to a research team led by the University of Exeter. Marine reserves have already proved to be a successful way of protecting marine life against commercial fishing. Now, research published 15 May 2007 in Proceedings of the National Academy of Sciences, shows for the first time how marine reserves could also help in the recovery of corals, which are already suffering the effects of climate change and over-fishing.

Blue parrotfish (Scarus coeruleus), one of the largest herbivorous fishes on Caribbean coral reefs. (Credit: Evan D'Alessandro)

Funded by the Natural Environment Research Council (NERC) and the US National Oceanic & Atmospheric Administration (NOAA), the research was carried out on The Bahamas' Exuma Cays Land and Sea Park. At 442 square km, this is one of the largest and most successful marine reserves in the Caribbean.

The team found that the number of young corals doubled in areas in which native fish, such as parrotfish, were protected from being caught. Young corals are needed to replace older corals that have been killed by storms, disease or other problems. The reserve enabled young corals to survive exceptionally well because marauding seaweeds were controlled by grazing from plentiful numbers of parrotfishes living in the reserve.

Lead researcher Professor Peter Mumby of the University of Exeter said: "This is the first evidence we have that marine reserves benefit coral. Coral reefs are unique ecosystems that have supported thousands of fish and other marine species for millions of years. We estimate that humans have already destroyed around 30% of the world's coral reefs and climate change is now

causing further damage to coral. These findings illustrate the need to maintain high levels of parrotfishes on reefs in order to give corals a fighting chance of recovering. This can either be done using marine reserves or national fisheries legislation that protects parrotfish.'

Marine reserves are areas of the sea that are protected against potentially-damaging human activity, like mining and fishing. Approximately 19% of the world's coral reefs are located within marine reserves.

Reef facts

- A coral reef is made up of thin layers of calcium carbonate (limestone) secreted over thousands of years by billions of tiny soft bodied animals called coral polyps.

- Coral reefs are the world's most diverse marine ecosystems and are home to twenty-five percent of known marine species, including 4,000 species of fish, 700 species of coral and thousands of other plants and animals.

- Coral reefs have been on the planet for over 400 million years.

- The largest coral reef is the Great Barrier Reef, which stretches along the northeast coast of Australia, from the northern tip of Queensland, to just north of Bundaberg. At 2,300km long, it is the largest natural feature on Earth.

- Coral reefs occupy less than one quarter of one percent of the Earth's marine environment, yet they are home to more than a quarter of all known fish species.

As well as supporting huge tourist industries, coral reefs protect shorelines from erosion and storm damage.

Note: This story has been adapted from a news release issued by University of Exeter.

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Deep Sounds Scare Fish Away From Turbines That Could Kill Them

Science Daily — Fish migrating downstream take quite a risk if their rivers are bordered by industries that use large amount of water for cooling or hydroelectric purposes. Water intakes generally open in the direction of the main current channel of the river, resulting in migrating fish being pulled in. Some die of asphyxiation on the filters, others by a lethal contact with turbine blades. This impact has greatly contributed to the decline of migratory species of fish, such the European eel and the Atlantic salmon, both important as fishery resources. In the particular case of the European eel, threatened worldwide, the cumulative mortality of adults migrating downstream in large rivers towards the sea can exceed 90% due to the succession of industrial water intakes.

The infrasonic fish repulsion system is designed to reduce fish mortality at industrial water intakes. (Credit: Image courtesy of ProFish Technology and the University of Liege)

This important ecological problem has been legally addressed through the European Water Framework Directive and the recent European Commission for eel protection, underlining the need to reduce this kind of mortality. Various behavioural barriers have been tested to deflect fish away from a water intake by the use of stimuli like light, sounds, electric fields, bubble curtains, with a relative efficiency.

Now, ProFish Technology, a spin-off of the University of Liège (Belgium) proposes a new concept of fish behavioural barriers based on the emission of infrasounds. This technology has been developed by the University of Oslo, Norway (Prof. O. Sand), and was successfully tested by the University of Liège on a nuclear cooling water intake in Belgium. Based on these encouraging results, Dr. Damien Sonny, fish biologist of the University of Liège and now Director of ProFish Technology, has acquired an exclusive licence

from the team of Prof. O. Sand in order to propose infrasounds as an efficient behavioural barrier to industries and rivers managers.

Infrasound are acoustic signals characterised by frequencies below 20 Hz, too low for human hearing. Infrasounds are natural alarm signals for fish, and the intensity used by the infrasound fish fence of Profish Technology create literally shake the fish, creating an uncomfortable area that they always avoid, with no habituation. Consequently, this system has revealed in the scientific literature the best efficiency results on the largest number of fish species, as observed during the test on the cooling water intake in Belgium where a reduction of 85% of the fish entrained was observed. An adequate location of the infrasound units will thus induce avoidance trajectories of fish. It is possible to adapt the operation of the system to migration periods of target species, in autumn for the downstream run of the eels, or in spring for the migration of young salmon.

The nuclear power plant of Tihange (Electrabel) in Belgium, that collaborated actively with the University of Liège during the basic research, has shown its interest in the infrasound technology, and by this autumn, several infrasound units will be placed at the mouth of the water intake to keep fish downstream migrating in the main channel of the River Meuse. Electrabel Tihange will be pioneer in the use of infrasound on industrial water intake.

Beside the repulsion technology, ProFish Technology proposes the design and the conception of fish passes, for upstream and downstream migration, addressing solutions to all kind of fish migration problems, with the possibility to use infrasound as a guidance towards fish passes.

Through its technology and services, ProFish technology reconciles industrial activities with responsibility for environmental concerns. Several companies have already showed an interest, and some contacts have been made with Hydroquébec (Québec-Canada), New York Power Authorities (USA), EDF (France) and Shell (Aus-

tralia).

Note: This story has been adapted from a news release issued by University Of Liege.
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Full-term, Low-birthweight Babies At Significantly Greater Risk For Early Respiratory Symptoms

Science Daily — Through age 5, children born at full term with low birth weight show significantly greater risk for developing respiratory symptoms, including wheezing, coughing and pulmonary infections, according to a large longitudinal study on birth weight and development. The children's symptoms grew worse if they were exposed to environmental tobacco smoke.

Professor Johan C. de Jongste, M.D., Ph.D., of the Department of Pediatric Respiratory Medicine at Erasmus MC/Sophia Children's Hospital in The Netherlands, and eight associates studied 3,628 children who took part in the 1996 Prevention and Incidence of Asthma and Mite Allergy (PIAMA) birth cohort study, which analyzed children's allergic reactions and history of asthma.

The researchers concluded that the effect of birth weight on respiratory symptoms increased, from ages 1 to 5, in direct relation to birth weight per kilogram less in each child. However, after age 5, the effect lessened and was not significant by age 7. The authors defined low birth weight as 5.5 pounds at birth.

"Size and maturity are major factors in the development of the lung," said Dr. de Jongste. "In children with diminished prenatal growth, and consequently low birth weight, a disturbed lung development is associated with a relatively small airway caliber. This can cause decreased lung function and more respiratory symptoms later in life."

According to the investigators, the effect of birth weight on respiratory symptoms was significantly greater among children

exposed to tobacco smoke in their home. They also noted that maternal smoking during pregnancy was "clearly associated with a reduced birth weight."

By age 2, cough was the most frequently reported symptom among the children. Between the ages of 4 and 7, about 70 percent of the kids with respiratory symptoms reported cough.

During the full 7-year follow-up, 38.9 percent of the study population had at least one wheezing episode; 51.7 percent reported cough at night; and 37.3 percent a lower respiratory infection at a specific point in time.

"Overall, 70 percent of the cohort had reported at least one respiratory symptom at some point in the first 7 years of life," said Dr. de Jongste.

A child born at a low birth weight had an additional 6 percent chance of respiratory symptoms if he or she was exposed to environmental tobacco smoke at home after birth. The risk for children who are exposed both in utero and after birth rose to 12 percent.

"To separate the effect of a birth weight in children born at term from the sequelae of prematurity," the researchers excluded all premature infants from their study.Drs. de Jongste and colleagues concluded that low birth weight is an important risk factor for the development and persistence of respiratory symptoms during preschool and early elementary school. The association was strongest at age 4 but had no effect after age 6.

"In addition, all parents should be strongly encouraged to stop smoking because it has clear health benefits for their offspring," said Dr. de Jongste. "Our data suggest that focusing on parents of low-birth-weight children is of specific interest because their children may be especially vulnerable to environmental tobacco smoke."

The research results appear in the second issue for May 2007 of the American Journal of Respiratory and Critical Care Medicine, published by the American Thoracic Society.

Note: This story has been adapted from a news release is-

sued by American Thoracic Society.
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Unfair Treatment Boosts Heart Attack Risk

Science Daily — Unfair treatment in life boosts a person's chances of having a heart attack, suggests research in the Journal of Epidemiology and Community Health.

The findings are based on more than 8,000 senior civil servants working for the British government in London (The Whitehall Study II).

They were asked to score their responses to the statement: "I often have the feeling that I am being treated unfairly" on a scale of 1 to 6, where 1 equals "strongly disagree" and 6 equals "strongly agree." Unfair treatment applied to all aspects of their lives, including employment, family, and society in general..

Scores of 1 or 2 were categorised as "low," those of 3 or 4 as "moderate," and those of 5 or 6 as "high."

Their mental and physical health was tracked for an average of almost 11 years, using validated health and quality of life surveys and data on ill health and death.

During the monitoring period, there were 528 new cases of fatal and non-fatal heart attack and angina in people who had had no signs of heart disease when the study began.

Just under 3,000 people felt they were unfairly treated, of whom 64 out of 966 in the "low" category had had a heart attack or angina. This compares with 98 out of 1368 in the "moderate" and 51 out of 567 in the "high" categories.

The figures were adjusted to take account of traditional risk factors for heart disease, as well as socioeconomic status, gender, age, chronic job stress unfair treatment at work, and personality traits, such as hostility.

But the results still showed that the higher the sense of injustice, the greater was the risk

of a heart attack or angina.

People in the "high" category were 55% more likely to have serious heart disease as those who did not feel they were unfairly treated and twice as likely to have it as those in the "low" category. Women and those with lower incomes and status were significantly more likely to feel that they were being unfairly treated.

Unfair treatment was also associated with significantly higher levels of poor physical and mental health.

The authors conclude that fairness is key to promoting a healthier society.

Note: This story has been adapted from a news release issued by BMJ Specialty Journals.

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Boiling Broccoli Ruins Its Anti-cancer Properties, According To Study

Science Daily — Researchers at the University of Warwick have found that the standard British cooking habit of boiling vegetables severely damages the anti-cancer properties of many Brassica vegetables such as broccoli, Brussel sprouts, cauliflower and green cabbage.

Researchers at the University of Warwick have found that the standard British cooking habit of boiling vegetables severely damages the anticancer properties of many Brassica vegetables such as broccoli, Brussel sprouts, cauliflower and green cabbage. (Credit: iStockphoto/Jason Lugo)

Past studies have shown that consumption of Brassica vegetables decreases the risk of cancer. This is because of the high concentration in Brassicas of substances known as glucosinolates which are metabolized to cancer preventive substances known as isothiocyanates. However before this research it was not known how the glucosinolates

and isothiocyanates were influenced by storage and cooking of Brassica vegetables.

The researchers, Prof Paul Thornalley from Warwick Medical School at the University of Warwick and Dr Lijiang Song from the University of Warwick's Department of Chemistry bought Brassica vegetables, (broccoli, Brussel sprouts, cauliflower and green cabbage) from a local store and transported them to the laboratory within 30 minutes of purchasing. The effect of cooking on the glucosinolate content of vegetables was then studied by investigating the effects of cooking by boiling, steaming, microwave cooking and stir-fry.

Boiling appeared to have a serious impact on the retention of those important glucosinolate within the vegetables. The loss of total glucosinolate content after boiling for 30 minutes was: broccoli 77%, Brussel sprouts 58%, cauliflower 75% and green cabbage 65%.

The effects of other cooking methods were investigated: steaming for 0–20 min, microwave cooking for 0–3 min and stir-fry cooking for 0–5 min. All three methods gave no significant loss of total glucosinolate analyte contents over these cooking periods.

Domestic storage of the vegetables at ambient temperature and in a domestic refrigerator showed no significant difference with only minor loss of glucosinolate levels over 7 days.

However the researchers found that storage of fresh vegetables at much lower temperatures such as −85 ^{r}cC (much higher than for storage in a refrigerator at 4–8 ^{r}cC) may cause significant loss of glucosinolates up to 33% by fracture of vegetable material during thawing.

The researchers found that preparation of Brassica vegetables had caused only minor reductions in glucosinolate except when they were shredded finely which showed a marked decline of glucosinolate levels with a loss of up to 75% over 6 hours after shredding.

Professor Thornalley said: "If you want to get the maximum benefit from your five portions-

a-day vegetable consumption, if you are cooking your vegetables boiling is out. You need to consider stir frying steaming or micro-waving them."

Note: This story has been adapted from a news release issued by University of Warwick.
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US Continues To Lag On Health Care, According To New International Comparison

Science Daily — The U.S. health care system ranks last compared with five other nations on measures of quality, access, efficiency, equity, and outcomes, in the third edition of a Commonwealth Fund report analyzing international health policy surveys. While the U.S. did well on some preventive care measures, the nation ranked at the bottom on measures of safe care and coordinated care.

Another new Commonwealth Fund report comparing health spending data in industrialized nations published today reveals that despite spending more than twice as much per capita on health care as other nations ($6,102 vs. $2,571 for the median of Organization for Economic Cooperation and Development [OECD] countries in 2004) the U.S. spends far less on health information technology–just 43 cents per capita, compared with about $192 per capita in the U.K.

"The United States stands out as the only nation in these studies that does not ensure access to health care through universal coverage and promotion of a 'medical home' for patients," said Commonwealth Fund President Karen Davis. "Our failure to ensure health insurance for all and encourage stable, long-term ties between physicians and patients shows in our poor performance on measures of quality, access, efficiency, equity, and health outcomes. In light of the significant resources we devote to health care in this country, we should expect the best, highest performing health system."

In Mirror, Mirror on the Wall: An International Update on the Comparative Performance of American Health Care, by Karen Davis, Ph. D., and colleagues, compare surveys on physicians' and patients' experiences and views of their health systems conducted in Australia, Canada, Germany, New Zealand, the U.K., and the U.S. between 2004 and 2006. Key findings include:

- On measures of quality, the U.S. overall ranked 5th out of 6 countries. The U.S. ranked fifth in coordinated care, and last in patients reporting that they have a regular doctor (84% vs. 92%-97% in other countries).

- On access measures the U.S. ranked last overall, including last on timeliness of care: 61% of U.S. patients said it was somewhat or very difficult to get care on nights or weekends, compared with 25%-59% in other countries.

- On efficiency, the U.S. ranked last overall, including last on percent of patients who have visited the emergency room for conditions that could have been treated by a regular doctor if one had been available (26% vs. 6%-21% in other countries). The U.S. ranked fifth of six countries on primary care practices having "high clinical information functions," defined as practices having at least 7 of 14 office practice information functions, including electronic records, electronic prescribing, computerized safety alerts, and patient reminders systems and registries (19% compared with 8%-87% in other countries).

Multinational Comparisons of Health Systems Data, 2006, by Jonathan Cylus and Gerard Anderson, Ph.D., of The Johns Hopkins University, compares health spending data in nine Organization for Economic Cooperation and Development (OECD) countries: Australia, Canada, France, Germany, Japan, the Netherlands, New Zealand, the United Kingdom, and the United States and, where possible, the median

of all 30 OECD countries. Key findings include:

- In 2004 the U.S. spent the most per capita on hospital services, and Canada and Japan spent the least. Adjusted for differences in cost of living, inpatient acute care spending per day in the United States was nearly three times the median OECD country ($2,337) and over five times more than Japan ($419).

- The U.S. spent twice the OECD median per capita on drugs in 2004–$752 compared with $377.

- Nearly one-third (30.6%) of individuals in the U.S. were obese in 2004, compared with 13 percent of the OECD median.

- The U.S. had about two and a half times the OECD median for years of potential life lost due to diabetes–101 per 1,000 people compared with 39 per 1,000 (U.S. data is for 2002).

The Commonwealth Fund is a private foundation working toward a high performance health system.

Note: This story has been adapted from a news release issued by Commonwealth Fund.

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Childhood Environment Influences Reproductive Function

Science Daily — A study led by researchers at UCL (University College London) demonstrates that female reproductive function is influenced by childhood environment. This suggests there is a critical window of time from about 0-8 years of age that determines the rate at which girls physically mature and how high their reproductive hormone levels reach as adults.

Bangladeshi children (Credit: Image courtesy of University College London)

Published recently in PLoS

Medicine, the study compares reproductive hormone levels of groups of Bangladeshi women who migrated at different periods of their life. It finds that women who migrated from Bangladesh to the UK during infancy and early childhood reach puberty earlier, are taller, and have up to 103 per cent higher levels of the hormone progesterone as adults in comparison to women who migrated at a later age, as well as those who had remained in Bangladesh. These higher hormone levels could potentially increase a woman's ability to conceive.

Lead author Dr Alejandra Núñez de la Mora, UCL Department of Anthropology, said: "The findings point to the period before puberty as a sensitive phase when changes in environmental conditions positively impact on key developmental stages. Put very simply, the female body seems to monitor its environment throughout childhood and before puberty, to gauge when and at what rate it will be best to mature. It then sets development, including reproductive hormone levels, accordingly. This is an advantage in evolutionary terms, as it makes the best of the resources and energy available for reproduction in any given circumstance.

"Girls who migrate at a young age seem to mature more quickly when they find themselves in an environment where the body has more access to energy. In other words, when they're under less physical strain due to factors like a better diet and general health. When energy is a limited resource, it must be allocated between maintenance, growth, and reproductive functions – the body makes trade-offs within the constraints it experiences. When conditions are better, these constraints are relaxed and more energy is diverted towards reproduction."

The results of this study are relevant not only to Bangladeshi groups, but to other migrant groups and populations in transition worldwide. These findings add to accumulating evidence that humans have an evolved capacity to respond to chronic

environmental conditions during growth and to make decisions about how to apportion energy between reproductive and other bodily functions.

Five groups of women were selected and compared for the study. These included women who had grown up in Bangladesh but moved to the UK as adults; those who had moved to the UK as children; second generation Bangladeshi women living in the UK; women who were born and raised in Bangladesh; and a comparison group of women of European descent who were born and raised in the UK. Bangladeshi migrants were chosen for this study because of the long and on-going history of migration to the UK and the general contrasts in conditions between the two countries.

The subjects in each group gave saliva samples over an extended period, to measure levels of the female hormones progesterone and oestradiol. These are key fertility hormones, influencing the female menstrual cycle, pregnancy and embryonic development. Health information and body measurements were also provided by the subjects.

Co-author Dr Gillian Bentley, UCL Department of Anthropology, who directed the project added: "The theory that early environmental factors may affect reproductive function has been suggested previously by anthropologists*, but this field study is the first to use measurements of hormone levels to demonstrate a link between childhood environment and reproductive maturation and function. However, hormone levels are not just relevant to reproduction. The significant increase in progesterone levels that we document in migrant women may result, for example, in higher breast cancer risks in subsequent generations of this community. The potential health implications are far-reaching."

Bangladesh, in South Asia, is one of the most densely populated countries in the world. The Bangladeshis who took part in the study were middle class women from the Sylhet District. Although a relatively affluent area of the country, inhabitants

still suffer from higher immune challenges, primarily due to poor sanitation and limited access to healthcare. These aspects of the environment in Bangladesh are thought to be responsible for the slower development of the Bangladeshi women who grew up there.

The study was co-authored by Dr Robert Chatterton in Obstetrics and Gynaecology at Northwestern University, Chicago who supervised the laboratory work, and Dr Osul Choudhury of the Sylhet Osmani Medical College, Bangladesh who co-ordinated research with Dr Núñez de la Mora in Bangladesh.

Reference: 'Childhood Conditions Influence Adult Progesterone Levels' PLOS Medicine, doi:10.1371/journal.pmed.0040167

Note: This story has been adapted from a news release issued by University College London.

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'Super-fridge' To Help Improve Lives In Developing Countries

Science Daily — The £2m Stove for Cooking, Refrigeration and Electricity (SCORE) project aims to work with rural communities in Africa and Asia, where access to power is limited, to develop a versatile domestic appliance powered by biomass that will significantly improve health and welfare.

All-in-one fridge, cooker and electricity generator aims to improve life in rural communities. (Credit: Image courtesy of Imperial College London)

The team hopes that the device will also promote economic growth and reduce poverty by enabling communities to take ownership of its development and establish businesses from its manufacture, repair and application.

Dr Keith Pullen of the Department of Mechanical Engineering at Imperial College London leads Imperial's side of the project with Ron Dennis and will work to ensure that the technology can be adopted, developed and main-

tained in developing countries. He says:

"Heat, refrigeration and energy form the basis of a decent quality of life, from storing medicines at the right temperature to improving access to education through electricity for computers and lighting. But you can't just go into communities and tell them what they need - what's so important about this project is that we are working in partnership with people to work out what's possible and develop something sustainable based on the skills and the raw materials available locally."

The electricity generating and refrigerating aspects of SCORE will be operated through thermoacoustic principles, which convert sound waves into heat and vice versa. This technology is far more efficient and less polluting than burning wood in an open fire, currently the primary cooking method of two billion people around the world. Dr Pullen adds:

"Using this technology while ensuring that the device is relatively low-cost and can be produced using local materials and labour is one of the great challenges of this project. Thermoacoustic systems have always been expensive and high-tech - a great deal of the first stage of this project will be taken up with translating the technology into something that can easily be mass produced."

The five year project is funded by grants from the Engineering and Physical Sciences Research Council as part of its initiative on energy and international development. It will comprise three years of social and scientific research and a further two years focused on technology handover, including field trials.

The project is a collaboration between Imperial and the Universities of Nottingham and Manchester, Queen Mary, University of London, Los Alamos National Laboratory, GP Acoustics and the charity Practical Action. Universities in Africa and Asia will also join the project on the design, development, production and introduction of the device.

Note: This story has been adapted from a news release is-

sued by Imperial College London. [←]

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Breastfeeding Duration Rates Higher For Infants Born In Baby-friendly Hospital

Science Daily — A new study in the May issue of the Journal of Human Lactation reports that being born in a Baby-Friendly hospital gives babies the best possible chance of breastfeeding to 6 months. This is particularly true for low-income populations and for families from backgrounds that traditionally have low breastfeeding rates.

The American Academy of Pediatrics, the World Health Organization (WHO), and other respected groups recommend that babies breastfeed exclusively until six months of age. The Baby-Friendly Hospital Initiative was established by WHO and the United Nations Children's Fund (UNICEF) to help the participating hospitals become centers of breastfeeding support.

The research published by SAGE in the Journal of Human Lactation, for the International Lactation Consultant Association, studied breastfeeding rates among babies who were born in an inner-city US Baby-Friendly hospital. They looked at the factors influencing a mother's decision to begin to breastfeed while in the hospital and what influenced whether that baby was still being nursed at six months old.

The study found that the rates of breastfeeding at six months was decreased for families with public insurance or if there was an early feeding problem. And although other studies have concluded that demographics usually factor into poor breastfeeding duration rates in low-income, black populations, this study found that those mothers who gave birth in a Baby-Friendly hospital breastfed at rates comparable to the overall US population, suggesting that the Baby-Friendly initiatives were positively affecting the health of those

babies.

"Interventions to improve breastfeeding rates at 6 months should include postpartum breastfeeding support and education," summarized the authors, Anne Merewood, MPH, IBCLC, Birva Patel, BS, MA, Kimberly Niles Newton, MPH, Lindsay P. MacAuley, MPH, Laura Beth Chamberlain, BA, IBCLC, Patricia Francisco, and Supriya D. Mehta, MHS, PhD, in the article's conclusion. "Further research is needed to determine the effect of Baby-Friendly status on breastfeeding duration in US hospitals serving alternative populations."

Article: "Breastfeeding Duration Rates and Factors Affecting Continued Breastfeeding Among Infants Born at an Inner-City US Baby-Friendly Hospital" May 2007, Journal of Human Lactation.

Note: This story has been adapted from a news release issued by SAGE Publications.

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Thale Cress Goes On The Defensive

Science Daily — Thale cress has a complicated defence technique against insects and microorganisms that use the plant as a source of food. The plant hormone jasmonic acid plays a major role during the immune response against insects and pathogens. Dutch researcher Vivian van Oosten has demonstrated that this does not necessarily lead to the control of the same genes during the various interactions.

Van Oosten exposed thale cress to five different plant pests with various attack strategies: aphids, thrips, caterpillars, bacteria and fungi. The composition and quantity of the plant hormones jasmonic acid, ethylene, and salicylic acid that the plant produces as a response, was specific for each pest. Analysis of the activated genes made it clear that every hormone composition in the plant led to an extremely complex expression file.

Four pests mainly stimulated the production of the plant hormone jasmonic acid, which is involved in the regulation of the immune response to insects as well as some pathogens. Although the hormone produced was always the same, there was little overlap in the expression of the genes that are responsive to jasmonic acid. This revealed that the immune response of the plant to a certain pest was also influenced by other signals.

This was surprising, as other studies into various plant pests had shown that jasmonic acid played a key role in the immune response against insects and some plant pathogens. By studying the immune response of a large range of pests on a single plant species, it became clear that even the jasmonic acid dependent immune mechanism of thale cress is attacker-specific.

Note: This story has been adapted from a news release issued by Netherlands Organization for Scientific Research.

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Walk Like An Egyptian – Or A Roman: Experience What The Past Really Looked Like

Science Daily — What was it like to walk round the Colosseum when the Roman Empire was at its height?" How would the experience have differed from that of a tourist today?"

The Byzantine Angeloktistis Church at Kiti, Cyprus - the team will produce trial reconstructions of the interior as part of the project. (Credit: Image courtesy of Engineering and Physical Sciences Research Council)

Our understanding of what life was like in bygone eras could be boosted, thanks to a new initiative aiming to depict more accurately and realistically how heritage sites may have looked in their heyday.

Computer scientists and cultural heritage researchers are assessing whether today's increasingly sophisticated 3-d computer technology can be combined with

the most recent historical evidence to produce significantly improved visual reconstructions of churches, palaces and other ancient sites.

This could help historians, students and museum visitors gain a much better feel of how such sites were perceived by the people who used them in the past and what it was actually like to be there. The project is being funded by the Engineering and Physical Sciences Research Council (EPSRC). The work is being carried out by researchers from Warwick Manufacturing Group and the new Warwick Digital Laboratory, University of Warwick.

In particular, the effects of smoke, dust, fog and interior lighting conditions (all of which would have impacted on the way that buildings were experienced by contemporaries) can now be modelled very accurately, for the first time. New developments in display technology also mean it is possible to produce images that are many times brighter, more vivid in colour, incorporate better contrast between light and dark – and are therefore much more realistic – than those previously achievable.

Harnessing such capabilities developed by leading-edge organisations in these specialised fields, the Warwick team is the first to examine whether they can be combined with the most up-to-date literary and archaeological evidence (about a site's characteristics, usage etc) and used to create 3-d computer reconstructions that provide new insight into the past.

"We're trying to produce images that show more realistically the actual conditions of the time we're looking back at," says Professor Alan Chalmers, who is leading the project. "Achieving this involves taking up-to-date historical evidence and combining it with the very latest in 3-d computer technology."

"The future might see the combining of extremely accurate, high-fidelity 3-d representations with temperature, smell, sound and other parameters," comments Professor Chalmers. "Our work may lead to a significant new tool that could help put

us in closer touch with the past."

The high-fidelity computer graphics techniques being developed within this project are equally applicable to other fields which require highly realistic visualisation, including medical images, product design, architecture and crime scene reconstruction.

In this feasibility study, the team, with the assistance of the Department of Archaeology and Anthropology, University of Bristol, the Byzantine Museum and Art Galleries, Cyprus, the University of Cyprus and Cultural Heritage Imaging, USA, are focusing on Cypriot remains from the Byzantine Empire (c.350-1450 AD).

Within a few years, the techniques being assessed could provide the basis for 3-d computer displays in museums that show how artefacts really may have appeared in their original settings. Indeed, the education sector as a whole could benefit enormously from the availability of such computer reconstructions of an unprecedented high quality.

The feasibility study, 'A Comparative Study of the High-Fidelity Computer Reconstruction of Byzantine Art in Cyprus in the Past and Present', is due to run for 10 months and is receiving EPSRC funding of just over £61,000.

The Byzantine period is particularly well-suited as a 'test case' because the use of gold in Byzantine churches, and its interplay with natural light, candlelight and architectural features, created visual effects (e.g. pictures of Christ, the Virgin Maria and saints glowing and apparently illuminated from within) that had a profound impact on worshippers. More realistic recreations of such interiors could shed valuable light on people's spiritual lives and inform our understanding of how they viewed religious and secular authority, for instance.

Note: This story has been adapted from a news release issued by Engineering and Physical Sciences Research Council.

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Alzheimer's Weight Gain Initiative Also Improved Patients' Intellectual Abilities

Science Daily — Swedish researchers have found a way to increase the weight of people with Alzheimer's, by improving communication and patient involvement, altering meal routines and providing a more homely eating environment.

During the three-month study, published in the May issue of Journal of Clinical Nursing, 13 of the 18 patients in the intervention group put on weight, compared with just two of the 15 patients in the control group.

Patients who gained weight also displayed improved intellectual abilities.

"Weight loss is a common issue among people with dementia and in particular Alzheimer's" explains lead researcher Anna-Greta Mamhidir from the Karolinska Institutet in Stockholm, Sweden. "Meal environment, communication difficulties, loss of independence and confusion are just some of the factors that appear to contribute to this problem. Malnutrition can also lead to other serious issues, such as increased infection rates, delayed wound healing and increased risk of hip fractures."

The aim of the study was to measure weight changes in patients with moderate and severe dementia and analyse whether providing staff training and a more supportive environment could lead to weight gain.

Two nursing home wards with similar staffing profiles and numbers of patients were selected. Both received meals from the same central kitchen.

The medical profiles of the two groups of patients were similar and drug regimes were unaltered during the study. Most of the patients had communication problems and memory loss and were physically dependent on staff.

Patients in the intervention group weighed between 31.5kg and 76kg at the start of the study, with an average weight of 55.9kg. By the end of the study

this average had risen to 56.4kg.

When the team looked at individual patients they found that the largest weight gain in the intervention group was 7kg (15.4 pounds) and the smallest was 0.6kg (1.3 pounds).

Patients in the control group weighed between 45kg and 76.3kg at the start of the study, with an average weight of 62.5kg. This average fell to 58.4kg over course of the study.

Staff in the intervention group attended a one-week training course run by a psychologist and professor of nursing science. It comprised 20 hours of lectures and 18 hours of group discussion covering three key themes: delivering care in a way that promotes the patient's integrity, how to communicate more effectively with patients with dementia and how to create a calmer and more homely environment.

During the study, the staff who had received training were asked to keep diary notes of any changes and they effect they had on patients. They also received support and encouragement from a research assistant, who spent most days on the ward, and a nurse researcher who visited the ward three to four times a week.

"We felt that this level of involvement in the project would make it easier for staff to accept and implement these new ideas" says Anna-Greta Mamhidir.

New pictures were placed on the dining room walls and staff worked with patients to print new patterns on curtains and tablecloths. Patients' rooms were given name plates, they were encouraged to have more private items in their rooms and staff wore brightly coloured clothes. The prepared trays sent by the kitchen were replaced with serving bowls and patients were encouraged to help themselves.

No changes were made to the control ward.

Staff on the intervention ward noted in their diaries that the changes increased the contact between patients and staff and created a more pleasant atmosphere.

"Patients took part in activities, sat at the table together during mealtimes and served them-

selves food from bowls, encouraging them to be more independent and interact more with other patients" says Anna-Greta Mamhidir.

"The initiative was so successful that staff on the control ward were given the same training at the end of the study so that they could make the same improvements on their ward."

Roger Watson, editor of Journal of Clinical Nursing, says that the research carried out by Mamhidir and colleagues makes a significant contribution to the field of food and dementia and has congratulated them for delving into what is a complex and difficult area.

"Societies are ageing and debates about food and old people and food and dementia – which are regular topics in the Journal – can only increase" he says.

"The current study shows a marked difference in weight change between the intervention and control groups and a strong link between weight gain and improved intellectual ability.

"I hope that it will stimulate further lines of enquiry as there is a vital need to improve nutrition among elderly patients, particularly those with Alzheimer's and other forms of dementia."

Reference: Weight increase in patients with dementia and alteration in meal routines and meal environment after integrity promoting care. Mamhidir et al. Journal of Clinical Nursing.16, 987-996.

Note: This story has been adapted from a news release issued by Blackwell Publishing Ltd..

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US Naval Academy-built Satellite To Carry NASA Experiments

Science Daily — A partnership between NASA and the U.S. Naval Academy is offering students real-world experience. During 2007 and 2008, students at the U.S. Naval Academy in Annapolis, Md., will build a satellite called "MidSTAR-2" through

a U.S. Department of Defense program that will carry four experiments into space in 2011 to look at different parts of Earth's atmosphere, gamma rays and solar winds.

First Class (M1C) Alexander Sandroni, USNR (left) and M1C William Snead, USNR worked on the MIDN experiment flying on MidSTAR-1. This experiment measures the radiation dose received from 50 million electron volt neutrons at three locations within the spacecraft. MIDN is sponsored by the National Space Biomedical Research Institute; Prof. Vincent Pisacane, Robert A. Heinlein Professor of Aerospace Engineering at USNA, is the principal investigator. Click on image to enlarge. (Credit: USNA)

Scientists at the NASA Goddard Space Flight Center in Greenbelt, Md., are taking advantage of the opportunity to carry promising technologies into orbit for evaluation.

For MidSTAR-2, midshipmen are developing a satellite bus, which is the main portion of the satellite. It is similar to the previous MidSTAR-1 satellite, which was launched earlier in 2007. The MidSTAR-1 satellite was a highly successful proof of design for the MidSTAR-2 satellite bus design concept.

The NASA experiments that will fly on MidSTAR-2 are part of the Internal Research and Development Program at NASA Goddard. "The NASA-Naval Academy partnership is extremely exciting," said Professor Billy R. Smith, Director of the U.S. Naval Academy's Small Satellite Program. "We get the benefit of their experience in building satellites and in return make a genuine contribution to their cutting-edge space research. It is this, more than anything else, that elevates our program above the simple student project level and makes it real for the midshipmen."

MidSTAR is a relatively low-cost type of satellite that will fly small instruments into space. The MidSTAR project at the U.S. Naval Academy is part of the Small Satellite Program. That program uses technical assistance from NASA, the Computer Sciences Corp, CNS Systems Inc., the U.S. Naval Re-

search Laboratory and Honeywell. All of these helped build MidSTAR-1 with a grant from the Boeing Corporation. Once the satellite is built, it is approved by the U.S. Department of Defense (DOD) and launched through their Space Test Program.

Currently, Navy men and women are building their second satellite MidSTAR-2, which will carry four different instruments or "payloads" for NASA and two for the DOD Space Test Program. "This type of spacecraft is intentionally simple in design and rugged in construction, using commercial off-the-shelf 'plug-and-play' parts as much as possible," said Midshipman First Class Jillian Trimboli, the student mission manager for the class of 2007 design team.

NASA really benefits from the U.S. Navy's satellite program, because NASA gets to send instruments into space without waiting for another mission. "This is a program where everyone wins," said Dan Powell, MidSTAR program manager at NASA Goddard. "Students get an opportunity to build and integrate a satellite bus and our scientists' instruments get a free ride."

"We get to do together what we could never have done separately," added Smith.

Four instruments are set to fly on MidSTAR-2. They will look at the Earth's thermosphere, gamma rays and solar winds.

The Remote Sensing of the Thermospheric Temperature instrument will be used to take the temperature of Earth's thermosphere to determine how much it can slow low-altitude spacecraft. The thermosphere is Earth's outermost layer of atmosphere, located from 80 to 550 km (approx. 50 to 340 miles) above the surface. Its temperature is dependent on the sun. When the sun is active, temperatures can soar to 1,500C (2,732 F) or higher. Because of the thin air, scientists can't measure temperature directly, so they measure density of the air by seeing how much drag it puts on satellites.

The Gamma-Ray Burst Polarimeter will study gamma-ray bursts. Gamma-ray bursts are the most powerful energies

known to man, given off by supernovas and black holes. This instrument will provide a good test for a new X-ray polarimeter in development and can reveal much about the areas around neutron stars or black holes.

The Miniature Imager for Neutral Ionospheric Atoms and Magnetospheric Electrons or "MINIME," could improve understanding on how the sun's solar wind (energy particles ejected from the sun, some of which come toward the Earth) interact with solar system planets and parts of Earth's atmosphere. The ionosphere and the magnetosphere are outer layers of the Earth's atmosphere that interact with the solar wind. One day, these instruments could help explain why Venus lost its water and whether conditions at Europa, Jupiter's moon, can support life.

The Plasma Impedance Spectrum Analyzer or PISA instrument will measure the amount of electrons (tiny charged particles) and the temperature in Earth's upper atmosphere. That will help scientists understand the ways that solar wind from the sun affects Earth's upper atmosphere. Solar winds can affect radio waves, making navigation and communication difficult.

If one of those four instruments doesn't make it on the satellite, a replacement experiment will be placed onboard. That instrument is called a "Combined Neutron, Gamma-Ray and Particle Radiation Detector." This instrument could reveal more about the chemicals found on the surfaces of other solar system objects, such as planets.

MidSTAR-2 can carry small space experiments and instruments, each weighing no more than 6 lbs. and using no more than 6 watts of power. NASA Goddard's instrument teams are expected to have their payloads finished by 2009 for the satellite. MidSTAR-2 is expected to launch in 2011.

For information about the MidSTAR program, please visit on the Web: http://web.ew.usna.edu/ midstar/.

For more information about the four technologies to fly

aboard MidSTAR-2, please visit: http://gsfctechnology.gsfc.nasa.gov/Payload_2.htm

Note: This story has been adapted from a news release issued by NASA/Goddard Space Flight Center.

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The Yin And The Yang Of B-cell Development

Science Daily — A new paper in the May 15th issue of Genes & Development reveals how a protein called Yin Yang 1 regulates early B cell development.

B cells are the antibody-producing cells of the body, which form the basis for the body's recognition of foreign pathogens. B cells undergo a multi-staged maturation process, whereby variable segments of their genome are recombined in various different ways to produce the diversity of antigen recognition that underlies the immune system.

In their upcoming paper, Dr. Yang Shi (Harvard Medical School) and colleagues demonstrate that Yin Yang 1 (YY1) plays a crucial role in regulating VH to DHJH recombination, an essential event for the differentiation of pro-B cell to pre-B cell.

"VHDHJH recombination is a fascinating, but incompletely understood process, which is initiated with the movement of the IgH locus from the periphery to the center of the nucleus where the locus undergoes contraction and recombination. YY1 represents the second transcription factor demonstrated to control IgH locus contraction, thus offering a unique opportunity to investigate molecular mechanisms that control this important process," explains Dr. Shi.

Note: This story has been adapted from a news release issued by Cold Spring Harbor Laboratory.

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Vast Regions Of West Antarctica Melted In Recent Past, NASA Finds

Science Daily — A team of NASA and university scientists has found clear evidence that extensive areas of snow melted in west Antarctica in January 2005 in response to warm temperatures. This was the first widespread Antarctic melting ever detected with NASA's QuikScat satellite and the most significant melt observed using satellites during the past three decades. The affected regions encompass a combined area as big as California.

NASA's QuikScat satellite detected extensive areas of snowmelt, shown in yellow and red, in west Antarctica in January 2005. (Credit: NASA)

Son Nghiem of NASA's Jet Propulsion Laboratory, Pasadena, Calif., and Konrad Steffen, director of the Cooperative Institute for Research in Environmental Sciences at the University of Colorado, Boulder, led the team. Using data from QuikScat, they measured snowfall accumulation and melt in Antarctica and Greenland from July 1999 through July 2005.

The melting occurred in multiple distinct regions, including far inland, at high latitudes and at high elevations, where melt had been considered unlikely. Evidence of melting was found up to 560 miles inland from the open ocean, farther than 85 degrees south (about 310 miles from the South Pole) and higher than 6,600 feet above sea level. Maximum air temperatures at the time of the melting were unusually high, reaching more than 41 F in one of the affected areas. They remained above melting for approximately a week.

"Antarctica has shown little to no warming in the recent past with the exception of the Antarctic Peninsula, but now large regions are showing the first signs of the impacts of warming as interpreted by this satellite analysis," said Steffen. "Increases in snowmelt, such as this in 2005, definitely could have an impact on larger scale melting of Antarctica's ice sheets if they were severe or sustained over time."

The satellite's scatterometer

instrument sends radar pulses to the ice sheet surface, measuring the echoed pulses that bounce back. When snow melts and then refreezes, it changes to ice, just as ice cream crystallizes when it is left out too long and is then refrozen. QuikScat can differentiate this icy fingerprint in the snow cover and can map on a continental scale the extent of strong snowmelt over the subsequently formed ice layer. Available ground station measurements validate the satellite result.

The 2005 melt was intense enough to create an extensive ice layer when water refroze after the melt. However, the melt was not prolonged enough for the melt water to flow into the sea.

"Water from melted snow can penetrate into ice sheets through cracks and narrow, tubular glacial shafts called moulins," Steffen said. "If sufficient melt water is available, it may reach the bottom of the ice sheet. This water can lubricate the underside of the ice sheet at the bedrock, causing the ice mass to move toward the ocean faster, increasing sea level."

Changes in the ice mass of Antarctica, Earth's largest freshwater reservoir, are important to understanding global sea level rise. Large amounts of Antarctic freshwater flowing into the ocean also could affect ocean salinity, currents and global climate.

Nghiem said while no further melting had been detected through March 2007, more monitoring is needed. "Satellite scatterometry is like an X-ray that sees through snow and finds ice layers beneath as early as possible," he said. "It is vital we continue monitoring this region to determine if a long-term trend may be developing."

QuikScat data are helping scientists better understand how Antarctica and Greenland's ice sheets gain or lose mass. "We need to know what's coming in and going out of the ice sheets," Nghiem said. "QuikScat data, combined with data from NASA's IceSat and Gravity Recovery and Climate Experiment satellites, along with aircraft and ground measurements, all contribute to more accurate esti-

mates of how the polar ice sheets are changing."

The study, "Snow Accumulation and Snowmelt Monitoring in Greenland and Antarctica," appears in the recently published book "Dynamic Planet."

For more information on QuikScat, visit: http://winds.jpl.nasa.gov

Note: This story has been adapted from a news release issued by NASA/Jet Propulsion Laboratory.

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Saliva Clue To Chronic Bullying

Science Daily — Hormones in children's saliva may be a biological indicator of the trauma kids undergo when they are chronically bullied by peers, according to researchers who say biological markers can aid in the early recognition and intervention of long-term psychological effects on youth.

"Bullying is mainly self-reported either by students or observed by teachers," said JoLynn V. Carney, associate professor of counselor education at Penn State.

Carney and Richard Hazler, professor of counselor education at Penn State, looked at the hormone cortisol in students' saliva to evaluate its validity as a reliable biomarker in assessing effects of precursors to bullying. In humans, this hormone is responsible for regulating various behavioral traits such as the fight-flight response and immune activity that are connected to sensory acuity and aspects of learning and memory.

"A lot of kids suffer in silence. When you hear of school shootings, or students who commit suicide as reaction to chronic peer abuse, those are kids who are not coping with the abuse by seeking appropriate support," said Carney. "They keep their anger and frustration within and fantasize either how they are going to escape the abuse through suicide or how they are going to get revenge on their abusers."

When a person senses a

threat, the cortisol level spikes and learning and memory functions are negatively impacted, Carney said. The body basically focuses the bulk of its attention on surviving the threat. The longer such a spike continues, the more damage it can do to various aspects of a person's physical, social, and emotional health.

However, when a person undergoes a lengthy period of stress similar to the chronic bullying experience, researchers have found less than normal cortisol reactions that are related to a decreased sensitivity to stress, a sort of numbing or desensitizing effect.

This hypocortisol finding, Hazler noted, has serious physical and psychological implications for kids – both victim and bystander. Research with adults exposed to repeated stressful events has linked hypocortisol with conditions such as chronic fatigue syndrome, chronic pelvic pain, and post traumatic stress disorder (PTSD).

The Penn State researchers tested the saliva of 94 sixth grade students between ages 9-14, along with a questionnaire on their experience on being bullied or watching someone being bullied, and additional measures of anxiety and trauma.

Since cortisol has a predictable daily pattern of highest levels in early morning and declining levels throughout the day, researchers collected samples of saliva when the students first arrived at school and then again before lunch.

"Lunchtime is one of those less supervised periods when kids are more likely to be bullied. One of the things we are trying to measure is not the reaction immediately following a bullying event, but instead the anticipatory anxiety that takes place with the approach of situations where bullying is more commonly occurs. Even kids who are not bullied suffer from such anticipatory stress because they anticipate watching their friends getting bullied and worry that they might be next," said Hazler.

"It is this anxiety that we believe is most dangerous because that anxiety stays with you. It is not dependent on the bullying

happening on a continual basis," he added.

Results from the study suggest that while bullying is directly linked to trauma and anxiety, it is indirectly linked to cortisol levels.

"This confirms our theory that while exposure to a one-time or very rare bullying episode might cause higher cortisol levels, exposure to bullying on a chronic basis would be associated with hypocortisol levels," said Carney and Hazler who recently presented their findings at the American Counseling Association Convention in Detroit.

The Penn State researchers liken their research on bullying to the study of depression, which used to be solely about psychiatric observations and behavioral tests until researchers began to find biological changes.

"All of a sudden depression was not simply a psychological phenomenon, but it also has a physical aspect with potential medication treatments to support counseling," they noted.

Note: This story has been adapted from a news release issued by Penn State.

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Call Her Isoke: Louisville Zoo's Baby Pygmy Hippo Receives Her Name

Science Daily — The Louisville Zoo's female baby pygmy hippo heard her name for the first time—Isoke (ee SO keh), which is African for satisfying gift.

Mother Tracy and her daughter, who was born at the Louisville Zoo between 6 p.m. Dec. 25 and 8 a.m. Dec. 26, enjoy their exhibit. As of Feb. 15, the baby pygmy hippo weighed 60 pounds. (Credit: Courtesy of the Louisville Zoo, Kara Bussabarger photographer)

The name was submitted by 5-year-old Aspen Hoffmans of Prospect as part of the Zoo Babies Naming Contest presented by Norton Healthcare. Gorilla Forest zookeepers narrowed the more than 2,000 entries down to three. There were multiple en-

tries for each finalist name selected, so winners were chosen at random. Zoo visitors then voted by making a contribution via coins into the slots on the Naming Contest kiosk on the Zoo's front plaza. The competition was fierce, but Isoke outdrew the other two. A total of $576.28 was raised through the voting process, with Isoke receiving $273.49. All proceeds support the Zoo's efforts to provide excellent care for animals, a great experience for you and a better future for all living things. A portion of the proceeds will support conservation efforts in Africa.

As the grand prize winner, Hoffmans will receive a Zoo family membership, two round trip tickets from Frontier Airlines valued at $1,000, a $50 gift certificate from Whole Foods and behind-the-scenes tour to meet baby and Mom with their keepers.

Second runner up was Lily, submitted by Frances Farley of Louisville with $166.95 and third place was Zuri, submitted by Melissa Langley of Louisville with $135.84.

These runners-up will receive a Zoo ticket pack, plush hippo, Norton Healthcare gift and a $25 gift certificate from Whole Foods.

Isoke is thriving. She is brave and adventurous, even swimming by herself, without her mom by her side. But, she can still be found following in her mother's footsteps quite often.

There are only 50 pygmy hippos in 22 locations in North America and births are rare.

Isoke and mother Tracy are on exhibit daily at Hippo Falls in the award-winning Gorilla Forest, weather permitting. You can hear keeper talks about the pygmy hippos at 11:30 a.m. now through September.

Other Winning Names

BONGO BABY - NAILAH

Melissa Culbertson of Louisville, submitted Nailah as the winning name for the female bongo born at the Louisville Zoo on Jan. 11. Nailah translates into "succeeding" in Africa.

The Louisville Zoo bongo keepers chose the name from more than 1,200 entries. Cul-

bertson will receive a Zoo gift basket that includes passes and a plush animal, a gift from Norton Healthcare, $25 gift certificate from Whole Foods and a behind-the-scenes Zoo tour to meet the baby and Mom with their keepers.

Nailah is on exhibit daily, weather permitting.

MANED WOLF PUPS – RAYNA, ROSITA AND RODOLFO

Sandi Willis-McCarter of Lexington, submitted Rayna, Rosita and Rodolfo as the winning names for the three maned wolf pups born at the Louisville Zoo on Jan. 7 and Jan. 8.

- Rayna can be translated as queen. "It is for the 'bossy' one," Willis-McCarter wrote with her entry.

- Rosita, like a rose, "is for the shy one," Willis-McCarter wrote.

- Rodolfo for the male is translated as "famous wolf" in Spanish.

The Louisville Zoo maned wolf keepers chose the names from more than 1,400 entries. Willis-McCarter will receive a Zoo gift basket that includes passes and a plush animal, a gift from Norton Healthcare, $25 gift certificate from Whole Foods and a behind-the-scenes Zoo tour to meet the babies and Mom with their keepers.

Rayna and Rosita are on exhibit daily, weather permitting.

Rodolfo's name will be sent on to the Buffalo Zoo, where he was recently transferred at the direction of the Species Survival Plan (SSP). SSP is a cooperative population management and conservation program administered by the Association of Zoos and Aquariums (AZA) to help ensure the survival of selected wildlife species. Rodolfo was sent to Buffalo to be a companion for another maned wolf pup who was orphaned.

The naming contest was presented by Norton Healthcare with additional support from Frontier Airlines, Whole Foods Market, WAVE 3 TV and 102.3 WXMA.

Visitors can now vote for their favorite elephant baby name on the Zoo's Front Plaza.

The names are Jonesy, Angus and Scotty. Voting ends May 24. For more information, visit http://www.louisvillezoo.org.

Note: This story has been adapted from a news release issued by Louisville Zoo.

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Vertical Workstations Could Help Obese Shed 30 Kilos A Year

Science Daily — Vertical workstations, incorporating a treadmill, could help obese employees shed up to 30 kg in weight every year, suggests a small study published ahead of print in the British Journal of Sports Medicine.

The vertical "walk and work" desk allows people to work at a computer while simultaneously walking on a treadmill at a speed of their own choosing. Designed by the authors, the steel frame of the device is shaped in the form of the letter "H" and supported by four locking rubber wheels, so that it can be moved about easily.

The frame holds a Plexiglass panel on to which two adjustable arms are bolted - one to hold the computer screen and the other for the keyboard and mouse. Slats provide storage for personal items.

The researchers compared the energy used at the "walk and work" desk with that used while seated at a conventional desk in 15 obese people with sedentary jobs. None of the participants did any regular exercise.

Energy expenditure was measured while working and walking for 35 minutes out of an hour in total and compared with that burned while working, seated at a desk. The average energy burned while seated at a desk was 72 kilocalories per hour. But the volunteers burned 191 kilocalories an hour while at the vertical workstation and walking the equivalent of 1 mile an hour.

The authors calculate that if obese employees used the vertical workstation for a couple of hours a day, they could boost their energy expenditure by 100 kilocalories an hour. Over the

course of a year, that could translate into shedding between 20 and 30 kg, they say.

The authors add that the study participants found the equipment easy to use and were able to work normally, to the extent that they wanted to continue using it after the study had finished.

And they suggest that devices, such as the vertical workstation, could help to reverse the rising tide of obesity.

Note: This story has been adapted from a news release issued by BMJ Specialty Journals. [←]