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News

What do drugs cost tax payers?

By Emma Dorey

The NHS is paying pharmaceutical companies £500m too much each year for prescription drugs, according to an investigation by the Office of Fair Trading (OFT), which has recommended reforming the drug price-fixing system.

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News

UK supermarkets move to clean up their act

By Cath O'Driscoll

Tesco, Sainsbury's, Co-op, Marks and Spencer, Morrisons, Somerfield and Nisa are the first UK retailers to back a European industry initiative designed to promote safer and more environmentally friendly cleaning products. They have signed up to the International Association for Soaps and Detergents and Maintenance Products (AISE) charter, a voluntary programme by cleaning product manufacturers to continuously improve their sustainability across their product life cycles.

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News

Shell and Imperial College set to investigate cleaner fossil fuels

By Cath O'Driscoll

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Oil giant Shell and Imperial College London are to embark on a new joint five-year 'multi-million pound' research programme with the aim of producing cleaner fossil fuels. The Shell-Imperial Grand Challenge programme will focus on developing processes to enhance the recovery of unconventional or hard-to-extract hydrocarbons with minimal release of greenhouse gases such as carbon dioxide. ng new reactors and how radioactive waste would be handled were not presented adequately.

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Nuclear power consultation a sham

By Emma Dorey

UK government plans to tackle energy security and climate change with new nuclear plants were struck a blow in February. High Court judge Justice Sullivan ruled that the consultation conducted last year by the government before deciding to allow the country's ageing nuclear plants to be replaced was seriously flawed and misleading. He said issues surrounding the financial costs of building new reactors and how radioactive waste would be handled were not presented adequately.

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Uranium merger

By Casey Gauthier

Uranium company UrAsia Energy has agreed to a \$2.9bn (£1.48bn) takeover by smaller rival SXR Uranium One.

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Nano-scale troughs

Minute nano-scale troughs could be used to hold single DNA strands in place, making analysis and sequencing quicker and easier.

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Magic beans fight diabetes

By Lisa Richards

A new study in rats reveals that a diet rich in black soya beans could help control weight, lower fat and cholesterol levels, and help in the prevention of diabetes. Yellow soya beans already feature prominently in western diets, whereas black soya beans are more commonly associated with oriental medicine.

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Researchers fish for solution to allergies

By Lisa Richards

Seafood allergy sufferers may soon be able to eat prawns without the fear of an adverse reaction.

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Researchers enjoy reflected glory

By Patrick Walter

The development of a super-thin, highly reflective mirror could substantially cut the cost of producing lasers for the next generation of DVD players.

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Tennis served by carrot racquet

By Patrick Walter

A high-tech material made from carrot fibres could be the lightweight composite of the future, competing with both carbon and glass fibre plastics in cars and high performance sports equipment.

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Gift wrapped

The physics behind the curl of ribbons used in gift wrapping has been solved by US scientists.

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Flu jab might fend off H5N1

The seasonal flu vaccine may offer some protection against the bird flu H5N1 virus, according to researchers at St Jude Children's Research Hospital (PLoS Medicine doi:10.1371/journal.pmed.0040059). The study centred on antibodies produced in response to neuraminidase, a protein found on the surface of human and bird flu viruses.

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BP pledges safety focus

By Patrick Walter

The incoming chief executive of BP, Tony Hayward, has promised a 'laser-like' focus on safety, as the oil major presented relatively disappointing last quarter results.

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Data restriction could cost lives

By Patrick Walter

The exclusive rights of pharmaceutical companies to clinical trial data could endanger lives in the event of a global flu pandemic by slowing the development of effective generic drugs, according to Karen Timmermans of the World Health Organisation (PLoS Medicine 2007 doi:10.1371/journal.pmed.0040002).

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Unclear future for Sanofi-Aventis

By Emma Dorey

French drug giant Sanofi-Aventis reported another year of growth in 2006, but the company is facing an unclear future. Out of total net sales of E28.4bn, pharmaceutical sales in 2006 were up 2.5% to E25.8bn, including a 16% jump in the US for its antithrombotic drugs Lovenox and a 26.1% rise for Plavix. The company reported operating income of E9.77bn, despite the impact of generic competition against four of its products in the US and the effect of healthcare reforms in France and Germany.

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News

Syngenta grows earnings

By Cath O'Driscoll

Swiss agrochemicals business Syngenta reported net income up 12% for 2006, at \$872m (€664m), despite seeing a 1% fall in sales, which the company blamed on 'challenging' market conditions particularly in the first half of last year. Profits were boosted mainly on the back of continued improvements in operational efficiency, begun in 2004, with annual cost savings from the programme reaching \$350m, more than offsetting a cumulative oil-price related cost increase of \$230m.

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News

GSK announces up to five major pharmaceutical launches for 2007

By Marina Murphy

In contrast to the pipeline troubles of other pharmaceutical companies, UK giant GlaxoSmithKline (GSK) announced that it is well on the way to five major pharmaceutical launches this year. In announcing pre-tax profits of £7.8bn (up 19%) in 2006, chief executive Jean-Pierre Garnier said the company's strong financial results were a result of its 'ever increasing portfolio of fast-growing products'. Garnier said that there are 10 products in late-stage development and a further 25 products in phase III development or registration.

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News

ICI's pre-tax profits up 8%

By Patrick Walter

UK paints and adhesives giant ICI is eyeing up possible bolt on acquisitions in the developing world after reporting a pre-tax profit of £407m, a rise of 8% on last year.

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News

Unconventional oil and gas

With supplies anticipated to tighten while demand continues to grow, international oil companies cannot afford to ignore unconventional sources of oil and gas. Consulting firm Wood Mackenzie studied the key types of unconventional oil and gas – heavy oil, tight gas, coal bed methane and shale oil – and has concluded that, by 2025, unconventional oil is expected to supply more than a fifth of global demand and unconventional gas is likely to account for over 40% of the US gas supply by 2010.

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News

Biogenerics on horizon

By Emma Dorey

Moves are afoot in the US to promote the approval of biogeneric drugs. In an effort to bring down the prices of biotechnology therapeutics, Henry Waxman, Charles Schumer, Hillary Rodham Clinton and other lawmakers have introduced the Access To Life-saving Medicines Act. The law will give the US Food and Drug Administration (FDA) legal authority to approve safe copies of biotech drugs.

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News

Pharma gives £1bn boost to UK economy

By Emma Dorey

The British pharmaceutical industry is worth at least £1bn more annually to the UK economy than any other industry – a value that is likely to impact economic and industrial policy.

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News

Plans to drive CO2 underground

By Emma Dorey

Scientists at the University of Leicester and the British Geological Survey have shown that locking CO2 underground in hydrate is feasible. Hydrate is a solid that is formed when gas and water freeze together at low temperature and high pressure. The idea is to trap the CO2 inside a cage of frozen water molecules (Planet Earth Autumn 2006). Experiments suggest CO2 hydrates should form stable structures in sediments under oceans, offering an alternative to the current practices of storage in warm, deep sediments in the North Sea. Before commercialising the technology, however, further research is needed to investigate the effect of forming hydrate within the seafloor sediments, and how changes in sea level affect stability, according to Mike Lovell, head of the department of geology at the University of Leicester.

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News

Suffolk wind farm

The UK Department of Trade and Industry has approved plans for a huge new offshore wind farm that will supply power for more than 400 000 homes.

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News

EU reports on the industry

By Neil Eisberg

This year will see the first major steps towards making the European chemical industry part of the 'most dynamic and competitive knowledge-based economy in the world', as agreed in the Lisbon strategy in March 2000. The European Chemical Industry High Level Group will have its first meeting in September. Group members are being recruited for approval by Gunter Verheugen, EU commissioner for enterprise and industry, with a third preparatory meeting planned for May/June 2007. An expert working group is already preparing a report on the current state of the industry for this meeting. It is expected to look very different to the Scenario 2015 report put together by Cefic only three years ago.

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News

Accident rate up 19%

An extensive UK survey has found that recorded accidents involving chemicals in 2005 were up 19% on the previous year.

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News

The power of advertising

By Emma Dorey

Despite recent controversies surrounding the misleading promotion of prescription drugs, the European Commission (EC) appears to be pandering to the pharmaceutical industry and considering relaxing laws on how drug information is provided to the public.

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Business

Business Digest

By Mark Whitfield

Dow Corning has reported adjusted net profits of \$167m (€127m) for the fourth quarter of 2006, an increase of 67% on the same period in 2005, on sales up 23% at \$1.16bn. Full year net adjusted profits were \$601m, 24% up on the previous year, on sales of \$4.4bn, an increase of 13% on 2005.

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News

Purely cosmetic

Painful nose jobs could be a thing of the past. A new method for dermatological treatment and tissue shaping has arrived, invented by Dieter Manstein of Boston, MA. This less invasive option uses needles and radio frequency pulses of electrical currents to treat patients looking for anything from a wrinkle-free face or a tight stomach to a new nose.

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People

Movers & Shakers

Richard Dixey, co-founder of Phytopharm, has stepped down as ceo and board director, and has been succeeded by the chief operating officer Daryl Rees. Piers Morgan, the former chief financial officer of BioAlliance, has been appointed chief financial officer and board member.

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Comment

Message in a plastic bottle

Plastic food packaging uses less energy and produces less waste than the alternatives, argues Anthony Roberts of the British Plastics Federation

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Features

Inside India

By Mark Whitfield

The face of India's manufacturing industry, including chemicals and pharmaceuticals, has changed significantly over the past 20 years. Gross domestic product (GDP) increased by 7.5% in 2004-05 and 8.4% in 2005-06, and has achieved an average growth of more than 8% over the past three years compared with 6% two decades ago, according to the country's Central Statistical Organisation.

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News

Fine chemicals transformed

By Sanjay Chaudhary

India's fine chemicals sector has transformed itself in the past few years. New patent legislation introduced in January 2005 is driving up confidence among overseas players, allowing Indian firms to compete for global outsourcing contracts not just in the more traditional areas of process development and raw material supplies but also in R&D activities to find new drugs. Under the World Trade Organisation's TRIPS regulations, India must now comply with international product patents on medicines – overturning previous legislation introduced in 1970 that only allowed the country to recognise patents on processes and not products.

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News

Driving expansion in petrochemicals

By John King

After much reported success in the IT and pharmaceutical industries, attention is now turning to India's petrochemical industry. Asia is currently the world's fastest growing region in terms of petrochemical demand, with China and India the most significant drivers behind the high regional growth.

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Features

Plant therapy

By Cath O'Driscoll

For the past two years, agricultural researchers in Costa Rica have been carrying out an unusual experiment. Based at a 200ha research station in Matina in the Caribbean lowlands, researchers have been investigating the effects of a novel chemical cocktail called Alethea in invigorating the region's valuable cocoa bean plants.

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Features

Killer dialogue

By Richard Corfield

The idea of alien intelligences calmly watching our every move and discussing the right time to take the Earth from us is the stuff of books, movies and nightmares. But how would you feel if you knew that every time you sat in the dentist's chair your dentist was fighting a losing battle with exactly such a foe?

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Highlights

Organic chemistry

By G. Richard Stephenson

Cycloaddition chemistry remains one of the most powerful strategies to build several stereogenic centres in a single step. The combination (Figure 1) of a Ni(II) catalyst and the DBFOX-Ph chiral auxiliary has been shown to promote a highly effective inverse electron demand Diels-Alder reaction.

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Highlights

Organometallic chemistry

By Kevin Burgess

A very direct approach to N-heterocyclic carbenes While it might be an overstatement to claim that N-heterocyclic carbenes are 'beginning to displace the classical organophosphoranes as ligands', they have certainly greatly increased the diversity of structures that can be coordinated to a metal. New routes to ligands in which carbene precursors can be fused with another coordinating group to make chelating ligands are therefore notable. Gade et al expanded on a method they have used previously in a recent paper in Organometallics (2006, 25, 2634). His group has found that N-substituted imidazoles can be used as nucleophiles in some S_NAr reactions to give imidazolium salts, eg (11) in Figure 4. These salts can be deprotonated and complexed with metals to give the carbene-benzoxazole complexes 12-14. Some of these are active as hydrosilylation catalysts.

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Reviews

Exploring molecular evolution

By Pier Luigi Luisi

A lot can happen in 4.6bn years, the approximate age of planet Earth. Indeed a lot has, with the emergence of life and the incredible diversity of species we see today. Estimates of the total number of animal species, which currently populate the Earth range from 1.5m to 30m or more. Further estimates indicate that this number represents less than 1% of all species that have existed. How this amazing diversity arose is certainly one of life's great mysteries, especially when one considers the humble chemical beginnings. Scientists, largely through palaeontology, have painstakingly pieced together the timescales of many of the key events that led to the evolution of the highly complex multi-cellular organisms present on Earth today. However, evidence upon which our interpretation of the early prebiotic events and the transition from these early chemical reactions to 'life forms' is based is scanty and speculative.

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Reviews

High-tech products

By John Nicholson

How on earth do the microprocessor and memory chip manufacturers continue to improve the speed and storage density of our PCs, and manage to do this at declining cost? John Nicholson's book describes the principle behind microlithography on page 128 and, in particular, how the spin coating of an ultra-thin layer of a designer polymer, a so-called 'photoresist', onto a silicon wafer is a key step in the mass production of computer chips and other microelectronic hardware.

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