

innovation express

LATi Leading Advanced Technology & Innovation



Mysteries of planet Mercury ready to be probed

Loughborough engineering firm Magna Parva is set to play a key role in a multi-million pound mission to the smallest planet in the solar system.

The specialist space and motorsport engineering company, based at Loughborough Innovation Centre, together with experts at the University of Leicester, has signed up for the mission to send a probe to Mercury.

The BepiColombo project will be the first joint mission to the planet, with one orbiter from the European Space Agency and another from the Japanese Aerospace Exploration Agency. The European agency is investing approximately £500 million in the project with the overall bill expected to be in the region of £745 million.

The orbiters will launch in August 2013, when they will embark on a challenging six-year interplanetary journey into space. When they arrive at their destination in 2019, where temperatures range from minus 173 to 430 C, the two spacecraft will be sent into orbit to conduct the closest studies yet of the planet. The scientific study will last at least one year, and one of the main aims is to send back detailed images of a greater proportion of the planet than ever before.

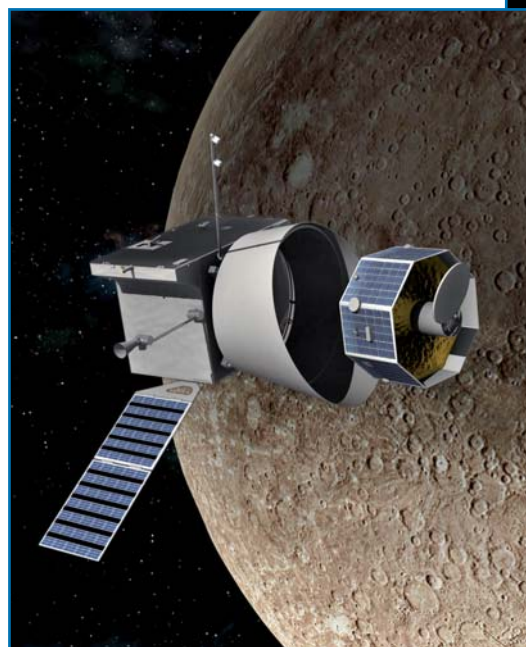
Professor George Fraser, of the University of Leicester Space Research Centre, will lead a research team from five countries to build an X-ray spectrometer that will paint the clearest images yet of the planet's surface. Magna Parva will join the university team to develop the mechanical structure for the telescope and ensure that work is carried out to the most accurate degree.

Magna Parva director, Andrew Bowyer, said: "This is a major and exciting project for us, which we will be working on for three years. Building things that go into space is something I'm very passionate about."

The Mercury mission is one of several projects with the European Space Agency that Magna Parva is involved in, with others including designing a drill which could end up being used to take samples of rock on Mars.

It is hoped that involving a relatively small, flexible company in the project will set a precedent for small, dedicated teams to work on future UK space science projects.

Scientists from the Rutherford Appleton Laboratory, University of Lancaster, Open University and University College London's Mullard Space Science Laboratory will also be involved in the research.



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The journey to Mercury:
BepiColombo's cruise configuration

Alarming innovation to benefit patients and carers

A high technology firm is launching a new alarm that will revolutionise the welfare of patients in care homes.

Leicester's ITS Designs has developed a system that will enable carers to look after multiple clients with a single pager. The company is a specialist manufacturer of 'Alert-IT' medical alarm systems and monitors, designed to assist care home staff to look after patients with a number of conditions including epileptic seizures, breathing difficulties, wandering, falling and bedwetting.

Launched in January, the new P137 Radio Alarm Pager system is specially designed to give the carer the ability to monitor more

than 30 patients at one time using a single alarm system with transmitters coded to the individual patient and condition. This is a marked improvement on original pager-based systems, which only allow a carer to monitor the activities of a single patient at one time.

David Godfrey, Managing Director of ITS Designs, comments: "The concept is simple, but very powerful. Our aim is to not only look after patients, but also the carers. I'm confident that our new alarm system will help carers do what they're doing more efficiently."

www.alert-it.co.uk

Garment to boost British athletes' Olympic performance

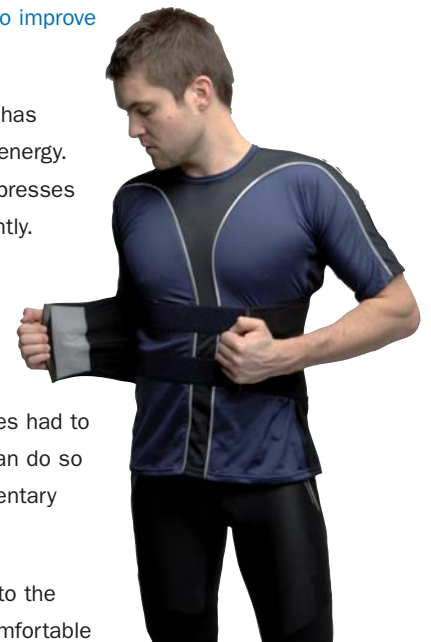
A Leicestershire sports innovation company has developed a patented garment that will be used to improve British athletes' performance at the 2008 Olympics.

Progressive Sports Technologies, based at Loughborough University's Sports Technology Institute, has developed a technical training garment, which optimises athletes' breathing while expending less energy. The new garment, RespiVest, is specially designed to fit each athletes' muscle structure and compresses the chest, resisting its expansion, exercising the muscles and adapting them to work more efficiently.

RespiVest is currently undergoing user trials by a number of top British athletes such as Rhys Williams, European Bronze medallist in 400 metres hurdles, and Tim Don, the 2006 World Triathlon Champion.

Ross Weir, Innovations Director at Progressive Sports Technologies, comments: "Previously, athletes had to sit down holding a device at the mouth to train their breathing muscles, but with RespiVest they can do so while engaging in any form of whole-body exercise. It is the first time athletes are freed from sedentary breathing muscle training, enabling them to easily achieve a sport specific one."

RespiVest can be used to assist both respiratory strength and endurance development according to the users' individual training objectives. The company is now refining the garment, making it more comfortable to wear and to provide digital training feedback to the athletes.



www.progressivesports.co.uk

Helping small businesses take care of the environment

Loughborough-based business consultancy Responsible Solutions has launched a service to help small businesses be more environmentally responsible.

The Virtual Environmental Manager system will help businesses keep track of environmental legislation changes, internal audits and training without all the associated costs of employing a dedicated person.

Chloe Nicholson, consultant for Responsible Solutions, comments: "It is important for organisations to reduce their environmental impact and become more socially responsible, especially with the Government bringing in tighter regulations. However, this is a financial worry for small businesses so we have developed a system that will help them to cope affordably with the new requirements."

www.responsible-solutions.co.uk

LATI visit to Zeeko Limited

Zeeko Ltd, a leader in precision optics polishing technologies, will be hosting a LATI event later this month.

Zeeko is a young and dynamic technology-based business with globally protected Intellectual Property extending to over 50 worldwide patents. In just seven years, Zeeko has progressed from being an innovative start-up company to working at the forefront of precision polishing technology; a position achieved through active worldwide marketing and supported by strong investment in innovation.

One of the major projects that Zeeko will play a significant role in is the European Southern Observatory's (ESO) 42 meter telescope project. The ESO telescope, which is likely to be based in the Andes, will collect images of galaxies which formed soon after the Big Bang, between 12 and 14 billion years ago. Zeeko will supply sample polished mirror segments for the 42 meter telescope, and will be building a special two-meter Precise Polishing Machine in Coalville to polish the segments for the telescope.

The LATI visit to Zeeko in Coalville takes place on Thursday 21 February, 6 – 8pm, and includes a presentation on The Advantages of Global Networking on Innovative Research Programmes, followed by a tour of the factory.

North Charnwood Business Forum | LATI showcase

Local businesses are invited to attend a free business forum event organised by Charnwood Business, LATI, Loughborough Chamber of Trade & Commerce and LeicesterShire Networks.

The event will provide help and advice on grants, business support and mentoring, business start-up and networking. Come along to hear presentations by UKTI on 'Internationalise Your Business', and the East Midlands Development Agency (emda) on 'Accessing Finance', which covers funding available from start-up right through to development capital.

The event takes place at Longcliffe Golf Club in Loughborough on Thursday 13 March starting at 6.30pm, and is free to attend.

On 16 April LATI will be holding its first showcase event, giving members an opportunity to present and demonstrate their latest innovations.

LATI members who offer business services for the high-tech sector are welcome to present or bring literature relating to their services to the event. To register your interest, contact Pauline Graham, LATI Manager, E: pauline@lati.co.uk

Further details will be published on the LATI website and monthly e-newsletter in due course.

www.CharnwoodBusiness.com

www.lati.co.uk

LATI visit to Scionix Ltd

On 1 May LATI will be visiting Scionix Ltd, one of the world's largest manufacturers of ionic liquids.

The company, which is a joint venture between The University of Leicester and Genacys Ltd, aims to commercialise the use of ionic liquid technology. It has developed several technologies in the fields of metal polishing, plating, metal recovery, recycling and cleaning.

In 2006 Scionix won the National Energy Efficiency Award in the research and development category for the development of a new type of solvent that is more efficient, recyclable and environmentally friendly. It is based on ionic liquids: non-volatile liquids that offer a clean way to carry out chemical processes, such as the electropolishing of stainless steel.

The LATI visit takes place on Thursday 1 May, 4 – 6pm, and will include a presentation and tour of Scionix's facilities.

Register online at www.lati.co.uk



Leading Advanced Technology & Innovation
Business networking for companies and individuals

Membership rates start at £25. To enquire about becoming a member of LATI, please contact Pauline Graham, LATI Manager, T: 01509 225833, E: info@lati.co.uk

www.lati.co.uk

LATI is supported by Leicester Shire Economic Partnership



3M launches technological advance for wound healing



A new dressing launched by 3M Health Care is giving clinicians an improved opportunity to manage complex and hard-to-heal wounds.

The Tegaderm Matrix dressing is a technological advance for the faster healing of chronic wounds by working at a molecular level to directly affect tissue regeneration.

The dressing is impregnated with a polyhydrated ionogen (PHI) ointment which, when gradually released into the wound bed, normalises the micro-environment. It also reduces excessive inflammation and facilitates the final stages of the healing process.

Wounds that take a long time to heal – such as pressure ulcers, leg ulcers and diabetic foot ulcers – are a significant clinical issue, leading to high treatment costs and additional burden on nursing resources. They can also have long-term social, physical and psychological implications for patients.

The structure and chemical composition of the Tegaderm Matrix dressing have been precisely developed to optimise the wound healing process and address these issues.

“PHI technology is an important and exciting addition to our dressing portfolio,” comments Andrew Garland, Sales and Marketing Manager for 3M Skin Health. “Although the technology is complex, the product is simple to apply and can offer significant resource benefits for the NHS. Most importantly, it can improve the quality of life for patients suffering from debilitating and longstanding wounds.”

Putting technology to good use

LATI member Michael Associates Ltd has been announced as the East Midlands regional winner of the Microsoft Award for Impact of Technology on Business, in the Chamber Awards 2007.

Michael Cheung, Creative Director of Michael Associates Ltd said: “We use Instant Messaging Systems for the team to keep in touch as we often work remotely, as well as utilising them with clients to assist communication during the completion of projects. As they say, the simplest ideas are often the best and

the impact IMS has had on our internal and external communications has been colossal.”

Peter Mileham, President of the British Chambers of Commerce, commended Michael Associates saying: “Technology touches all businesses and is often the difference between success and failure. Michael Associates Ltd has really made technology work and this in turn has had a profound effect on their success.”

Acquisition success for Campbell Scientific

LATI and LEC member Campbell Scientific Ltd, a scientific instrument manufacturer based in Shepshed, recently finalised a deal for the acquisition of Muir Matheson, a leading marine and airport weather systems provider.

Muir Matheson specialises in the provision of oceanographic and meteorological systems for offshore oil rigs and airports and has been a customer of Campbell Scientific for several years, integrating Campbell data loggers and peripherals into its bespoke systems.

Currently operating in related but non-competing markets, it is expected that the two companies will continue to trade independently but will seek to develop areas of synergy to mutually enhance their product ranges and competitiveness.

Dick Saffell, Campbell Scientific’s Managing Director said: “The merger provides a real opportunity for both businesses to draw upon the skills of the other, cross-fertilise our respective markets and exploit new opportunities together.”

Loughborough Enterprise Club (LEC) is a free networking and support organisation aimed at encouraging innovation and growth in the region. With free monthly events, LEC provides a regular forum in which you can meet and exchange ideas with other companies and individuals. New members are always welcome to join LEC free of charge. www.loughboroughenterpriseclub.co.uk

Passenger detection technology wins global award for innovation

An infrared imaging system developed at Loughborough University, which automatically counts the number of people in moving road vehicles, has won a prestigious innovation award from The Institution of Engineering and Technology (IET).

The vehicle monitoring system, dtect, can be used in all weathers, day or night, to instantly detect human skin behind all types of automotive glass at a range of 10 – 100 metres. Dr John Tyrer, a Loughborough University optical engineer, designed it as a means of enforcing car sharing priority lanes to ease congestion, but the technology is also used in road tolling and to monitor vehicles entering high security areas.

Since its successful trial on some of the UK's major trunk roads and traffic black spots, dtect has received considerable

investment by Avingtrans Plc, an AIM listed company specialising in the design and manufacture of critical components and associated services to the medical, aerospace and transport sectors.

dtect is part of a portfolio of innovations in non-contact testing developed by John Tyrer, who formed his first spin out company Laser Optical Engineering in 1997. Seven years later, he formed his second company, Vehicle Occupancy Ltd, specifically to boost dtect's commercial prospects. The recent alliance with Avingtrans has proved a shrewd move as its subsidiary company Crown UK is the leading UK supplier of roadside camera housings.

John Tyrer was presented with the award at the IET's annual Innovation in Engineering Awards ceremony in London.

www.vehicleoccupancy.com

Free business workshops

Connect Midlands is holding a new series of free breakfast workshops for companies and entrepreneurs. The 'Knowledge Net' workshops offer the opportunity to learn from industry experts on a range of topics, and are tailored to fit in with the business day.

The first workshop, 'Managing Cash Flow', will be held in Birmingham on 14 February, in conjunction with PriceWaterhouseCoopers, and will provide an overview and tips on planning and managing your cash.

Further Knowledge Net workshops in March and April will focus on successful networking, market research and marketing. Spaces are limited – book your place early to avoid disappointment.

www.connectmidlands.org/web/cm/knowledgenet.cfm

Grant boosts for collaboration

Four innovative projects have been awarded £5000 grants by the SPARK award scheme, which aims to develop relationships between educational institutes and the business community.

Developed in 2002 by the Electronics Enabled Products Knowledge Transfer Network (KTN), the SPARK awards encourage partnerships between small-to-medium sized enterprises (SMEs) and higher education institutes, with £5000 grants awarded in an annual competition.

The latest projects to receive SPARK awards are:

- A wearable device for monitoring postural stability in cerebral palsy – collaboration between James Leckey Design and the University of Aberdeen.

- A high-performance wireless sensor node to be used in demanding signal processing applications, including measuring vibration in industrial machinery – collaboration between Senceive and University College London.
- A computerised smart trolley to control and monitor drug dispensation in hospitals and care homes – collaboration between Belgravium Technologies and the University of Hull.
- The formalisation of design procedures for digitally controlled switch-mode power supplies – collaboration between Ridley Engineering and the University of Reading.

The next call for SPARK Awards applications is planned for November 2008.

www.electronicproductsktn.org.uk

Award-winning road and driver safety research

Loughborough University has been awarded a Queen's Anniversary Prize for Higher and Further Education 2007, in recognition of its pioneering vehicle, road and driver safety research.

It is the sixth time the University has captured one of these prestigious awards – an achievement equalled only by the University of Oxford. The Queen's Anniversary Prizes are awarded biennially in recognition of outstanding educational achievement in areas of service and benefit to the nation.

The University's research into vehicle safety and driver sleepiness is internationally recognised, and is conducted within two main areas of the University:

- The Vehicle Safety Research Centre (VSRC), established in 1982, is the largest crash investigation research group in the world. It conducts research into the causes of accidents and injuries in real world crashes and has made major contributions to European road and vehicle safety.
- The Driver Sleepiness Research Group (DSRG) was established in 1993 within the University's Sleep Research Centre and was the first UK research organisation to recognise the real problem of driver sleepiness and bring it to public attention. Its research and application of sleep science has led to widely adopted guidelines for the identification of sleep-related road crashes and to practical countermeasures, including changes to the Highway Code and the setting of legal precedents concerning driver liability.



Dr Louise Reyner from the DSRG assesses the impact of tiredness on driving using an interactive car simulator

The contributions of the VSRC and DSRG to saving lives and reducing serious injuries are widely acclaimed, and have greatly improved understanding of the causes of crashes and how they can be reduced.

Professor Pete Thomas, Head of the Vehicle Safety Research Centre, said: "We are delighted and honoured to have been chosen as the recipient of this prestigious award. It clearly demonstrates the high quality of the research work undertaken within the field of accident research."

Her Majesty The Queen will make the official presentation of the prize at a special ceremony at Buckingham Palace this month.

Business transformation grants

Business Link has announced a grant scheme, funded by the emda, to help local businesses introduce change for business improvements.

Any business with less than 250 employees trading within the East Midlands, that can evidence clear growth potential, can apply for a Business Transformation Grant (BTG).

The grant is designed to support the development and sustainability of your business, and can fund projects identified through an in-depth review of your company and development of an agreed action plan with a Business Link advisor.

Appropriate elements of the businesses action plan can generally be funded by the BTG portions on a 50/50 basis, with the company paying at least half of the total with the grant providing the remainder – up to a maximum value of £10,000 – of combined revenue and capital costs.

To make an appointment with a Business Link adviser, contact T: 0845 058 6644 or E: info@businesslinkem.co.uk

Give your business a boost

Businesses are invited to attend a free event on Thursday 10 April, to find out how they can access knowledge and expertise at Loughborough University through a Knowledge Transfer Partnership (KTP).

A KTP is a collaboration between a business and a university. It involves at least one high-quality graduate working in a company for 1 – 3 years on a project central to the needs of the company, whilst drawing on knowledge and expertise from the University. KTP projects are subsidised by a Government grant, so businesses only have to meet a maximum of 50% of the total project cost.

Many companies who have undertaken KTP projects have benefited from improved business performance and competitiveness, and an average increase in profits of £179K.

At the KTP event in April, you can find out more about KTP opportunities and hear the experiences of academics and companies already collaborating through the scheme. The event takes place at Loughborough Innovation Centre from 8.30 – 11am, with breakfast provided. To reserve your place, contact the Knowledge Transfer Office, T: 01509 223110, E: kt@lboro.ac.uk

www.lboro.ac.uk/business/kt/ktp

Rewarding student innovation

LEC and LATI member Gill Cooke Personnel, one of the largest single branch recruitment agencies in the East Midlands, is sponsoring the Loughborough University Student Business Plan Competition 2008.

The annual competition encourages students in the area of small business planning, and requires them to develop an innovative business idea and produce a business plan to demonstrate that they have researched the market and show that the idea is financially sustainable.

The most commercially promising and innovative business plans are selected by the judging panel to receive cash prizes. In addition to the three main prizes with a total prize fund of £3000, this year Gill Cooke Personnel is sponsoring an additional £1000 prize.

The winners will be revealed and prize money awarded at an awards night in June, sponsored by the Henry Ford College.

Exploiting Intellectual Property

Loughborough University's Enterprise Office has appointed Jason Wiggins as Head of Intellectual Property Commercialisation, to ensure that the University's knowledge is successfully exploited to the benefit of the university, its staff and the wider community.

This new role will involve seeking out and exploiting Intellectual Property (IP), developing the available range of knowledge exploitation routes, and providing enterprise support to the academic and student community, reflecting the university's position as an enterprising institution. Jason brings entrepreneurial, innovative and scientific skills from experience of scientific research through start-up companies to public sector advisory roles.

Fellowship for enterprising researcher

Loughborough University welcomes Bala Raghupathy as its first Enterprise Fellow, following the introduction of a new initiative to commercialise high quality business opportunities arising from research carried out by Loughborough University PhD students and post Doctoral researchers.

The 'Great Expectations Fellowship' aims to help researchers investigate and develop the commercial potential of their research, and support them in developing business and entrepreneurial skills.

After completing a PhD at Loughborough University's Institute of Polymer Technology and Materials Engineering (IPTME), Bala was selected for the Great Expectations Fellowship to commercialise

his research on nanostructured ceramics. He joins the university's Enterprise Office team for 10 months to undertake the Fellowship.

During his PhD, Bala worked on developing a new process for making ceramics with finer microstructures and improved properties; this technological break-through produces ceramics with a range of improved properties, such as hardness and so should enable production of a variety of new and improved products.

The desired outcome of the Fellowship will be a successful new business that will exploit Bala's technical expertise and intellectual property for zirconia nanoceramics and will allow the widespread application of the superior properties of nanoceramics for the first time.

Diary Dates

Unless otherwise stated, all events are free of charge and take place at 4pm at Loughborough Innovation Centre.

5 February

Loughborough Enterprise Club:

European Funding – Framework 7 by G&H Associates

7 February, 4pm

Sales Performance and Reputation Management seminar

at The Innovation Centre, De Montfort University

Free to LATI members, £5 non-members

21 February, 6 - 8pm

LATI visit to Zeeko Ltd, Coalville

Free to LATI members, £5 non-members

11 March

Loughborough Enterprise Club:

Profitable Creative Thinking by Strategic Planning Solutions

How to ensure staff are productive (from recruitment to dismissal)

by Peter Etherington, employment law consultant

13 March, 6.30pm

LATI & Charnwood Business Forum

at Longcliffe Golf Club, Loughborough

3 April, 7.30pm

LATI Business Bar, The Priory, Loughborough

Free to LATI members, £5 non-members

8 April

Loughborough Enterprise Club:

Product Lifecycle Management by Strategic Planning Solutions

Patents and Designs – protecting your assets by Swindell and Pearson

1 May 2008, 4 - 6pm

LATI visit to Scionix Ltd, University of Leicester

Free to LATI members, £5 non-members

6 May

Loughborough Enterprise Club:

The four things the sales professionals don't want you to know

by Precept Mentoring Group

Grant for R&D update by emda

To reserve your place

LEC events T: 01509 228688 E: events@loughboroughenterpriseclub.co.uk

LATI events T: 01509 225833 E: info@lati.co.uk

Gone in 60 seconds

UnLtd, the charity for social entrepreneurs, has teamed up with the social networking site Bebo to offer young people the chance to win £5000 to develop and turn an idea for social and environmental change into a reality.

The competition, known as 'Make Your Mark in 60 Seconds,' invites young people aged 14 – 30 to make a video clip of themselves pitching their idea and post it on the Bebo site.

As well as the £5000 prize, UnLtd will provide the winner with coaching to help turn their idea into reality. The deadline for applications is 18 February.

www.bebo.com/60seconds

Customer retention workshops

EMIN, the East Midlands Incubation Network, is offering a series of free customer retention workshops across the region during February and March, to give SMEs the skills and tools needed to retain key customers.

Funded by emda, the free Customer Retention Masterclass will help you to identify who your best customers are and teach you to manage your relationship with them to maximise current and future sales.

The workshop will help companies to develop a practical and effective customer retention plan. Experienced business professionals who use world class techniques will take you through a proven process using real life examples.

Places are limited so book now, T: 0116 257 7952, E: info@emincubation.co.uk

www.emincubation.co.uk

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Editor: Gemma Pendleton ☎ 01509 228684 Email: g.l.pendleton@lboro.ac.uk

Designer: Anna Stasinska

LATI / LEC Loughborough Innovation Centre Epinal Way Loughborough LE11 3EH

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