

STUDENTS BACK TO SCHOOL FOR BUSINESS START UP LESSONS



Delegates, staff and speakers from the Summer School

Sheffield's two universities joined forces last month to run the Enterprise Summer School for the city's students with help from Business Link South Yorkshire.

Sheffield Hallam University and The University of Sheffield played hosts to local students interested in starting their own businesses when they leave university. The aim of the school was to teach students about the different aspects of starting and running a business with a particular focus on South Yorkshire.

The school ran as a residential programme for a week with students participating in workshops and attending seminars run by expert staff from the two universities, Business Link South Yorkshire and entrepreneurs already running their own successful businesses. Topics covered included raising finance, marketing a business, negotiation skills and networking.

"The two universities felt that the students of Sheffield would benefit a lot more if we pooled our resources and expertise together rather than ran two rival schools," commented Sheila Quairney, Business and Enterprise Manager at Sheffield Hallam University. "The week was a huge success for the students and the staff and it highlighted the high level of entrepreneurial talent amongst young people in South Yorkshire."

The Entrepreneur Summer School was able to run thanks to support received from Business Link South Yorkshire using Yorkshire Forward and Objective 1 funds earmarked for graduate enterprise.

"We are very committed to enterprise in South Yorkshire and it's important to recognise students as potential entrepreneurs," said Denis Healy, Head of Marketing and Enterprise at Business Link South Yorkshire.

"By educating students and providing them with the skills and information they need, we can help increase business start-up in the sub region."

Two of the students taking part in the course have already indicated that they want to start a business when they finish their degrees and how the school has been very useful. Sonya Riley, 22, has just completed a degree in Engineering and Steve Fox, 22, is in the second year of a degree in Computer Studies. Both are keen to settle in Sheffield and set up their own businesses.

"This has been an excellent week, extremely valuable," praised Sonya "I can't state the value enough. It's great to meet and work with other enthusiastic students about enterprise."

For more information, please contact Amrit Saroya at Business Link South Yorkshire on: 01302 640155 or email: asaroya@blsy.com



Steve Fox and Sonya Riley, students on the programme, and Sheila Quairney, Business and Enterprise Manager at Sheffield Hallam University.



SHEAF IS SOLUTION TO BUSINESS BLUES

One of the key benefits of the Knowledge Starts programme is that it has helped the establishment of a new infrastructure to identify emergent technologies and services that can improve firms' competitive advantage, even where the exploitation of intellectual property may not be appropriate. This is particularly helpful where fast-moving markets and fierce competition necessitate the immediate introduction of new processes into the workplace. To help do this in activities that enable firms to eliminate waste and improve operational efficiency is the aim of a new service launched at Sheffield Hallam University

Sheaf Solutions, a manufacturing research centre at Hallam's Materials and Engineering Research Institute (MERI), offers industrial experience, independent advice and state-of-the-art facilities to businesses across the aerospace, automotive, manufacturing, healthcare and service industries.

Professor Terrence Perera, Director of Sheaf Solutions said: "We are delighted to be able to offer a broad range of consultancy

services, drawing on a unique combination of systems engineering, operational analysis and technology capabilities.

"We hope this will improve the performance of businesses, leading to cost savings, improved productivity and increased turnover."

Sheaf Solutions will be working in partnership with Triaster Ltd, which provides software and consultancy support for business process improvements.

Michael Cousins, Managing Director of Triaster said: "By working together, we hope to help businesses compete in the global marketplace."

Sheaf Solutions has already helped global companies Siemens and Rolls Royce improve the performance of robots used to assemble mechanical parts, as well as redesigning manufacturing facilities for local company Dormer Tools of Sheffield through computer simulation. The services, including customised training, are on offer to small and medium-sized enterprises (SMEs) as well as large enterprises.



Michael Cousins, Managing Director of Triaster and Professor Terrence Perera, Director of Sheaf Solutions

Sheaf Solutions is recognized by the Department of Trade and Industry's Manufacturing Advisory Service as a Centre of Expertise in Manufacturing.

For more information on Sheaf Solutions, visit:
www.shu.ac.uk/sheafsolutions or contact Sue Raynor on 0114 2253389 or email s.a.raynor@shu.ac.uk

NEW RESEARCH CENTRE GIVES FOOD SECTOR A WELCOME BOOST

Investment from the Knowledge Starts programme has of been of great value in drawing attention to those parts of the University in which there is considerable research and skills expertise, but which in the past have been linked with economic sectors which whilst widespread in their impact, have not had the glamour of some other areas of science and technology.

On the business front, there has been a concern that financial pressures on the industry have constrained investment and staff development initiatives, particularly in respect of smaller companies.

The Learning & Skills Council has awarded the Food Innovation & Research Centre a prestigious project, the Food & Drink Skills Broker for South Yorkshire, in order to address this situation.

A number of partner organisations are also involved including Business Link South Yorkshire, Business & Education South Yorkshire, Open Industry, Improve Ltd, and TEAM Food Ltd.

The work is primarily concerned with the engagement of local employers, and the arrangement of an ongoing forum for open discussion regarding their requirement for skills development and training. Aspirations are to combine the positive benefits of staff development with projects to increase efficiency. Where existing training cannot be found for a requirement identified by the Employer Group, the project team will draw up specifications, identify a deliverer, and undertake pilot schemes, fully funded by the LSC.

Projects are underway at the moment with The Thomas Food Partnership, Fosters Bakery, AE Whites Bakery, Cooplands (Doncaster) Ltd, King Asia Foods, Oakdale Bakeries, and Perkins Fresh-Pak to mentor supervisors on the production line of each site. The aim is to inform them of the results their actions will have on the companies' finances and also to deliver efficiency improvements in production. The project seeks also to address the image of the industry in a variety of ways: by attendance at appropriate events in the

region; the delivery of roadshows to schools and their advisers; and by school visits to a number of companies. Other specific initiatives include the commissioning of a number of CD-ROMs to give virtual tours around food and drink manufacturers combining text, graphics, still photographs, and video. The project has been very well received to date at all levels, and a number of key initiatives are in progress.

For further information contact David Johnson on 0114 225 3865 or email d.johnson@shu.ac.uk



Mike Buchanan from Marks & Spencer meets the students at the Food Innovation and Research Centre

EMERGING PROJECTS WITHIN THE ENGINEERING SECTOR

THE FOLLOWING FOUR PROJECTS HAVE BEEN BROUGHT FORWARD WITH ASSISTANCE FROM THE KNOWLEDGE STARTS PROGRAMME

A NEW CONCEPT IN GAS EXPLOSION MITIGATION

Following a successful programme of research at the University of Sheffield, Chemical & Process Engineering Dept, a UK patented (pending USA, Canada & Norway) concept has been demonstrated at medium scale to reduce the overpressure effects arising from gas explosions.

Key features of the device are:

- The mitigation device uses water at ambient temperature and pressure.
- The use of inerts or energetic injection processes are avoided.
- The device uses the initial energy in the explosion to induce water atomisation and halt the progress of the explosion front.
- The energy required to activate the device is low.
- Water droplets continue to be generated where they are needed to suppress the incident flame front.
- Normal levels of ventilation can be maintained with the device in place.

Operating Principles:

Water-filled aerofoils provide both the water reservoir for explosion suppression and the necessary aerodynamic profile for the generation of a fine mist at the onset of the explosion. A product from this technology could have applications in marine and mining industries, offshore oil and gas, and onshore chemical plants. Discussions have now commenced with a number of oil/gas majors.



Suppressed explosion



Unsuppressed explosion

SOLVENT FREE BATTERIES

Polymer electrolytes for solvent free lithium batteries operating at ambient temperatures. In association with several major international battery manufacturers a series of evaluation programmes are due to commence with the objective of confirming the commercial potential of this UK patented technology, developed at the University of Sheffield, Department of

Engineering Materials. With improvements in battery performance the technology has the potential for quicker charge time and extended battery life providing benefits to the high-value mobile phone and laptop industries.

CHEMICAL PROTECTION FOR THE USE OF GLASS IN CONCRETE

This project from the University of Sheffield, Civil & Structural Engineering Department arose from a research project examining the use of recycled glass (bottles, plate, windscreen and light bulbs) as alternative coarse and fine aggregates and cement replacement in concrete. An early evaluation would indicate that this technology has initial sales potential in niche architectural/ artistic markets. Long term, with approved national certification, it could offer products suitable for the pre-cast concrete market. Discussions have commenced with a number of interested collaboration companies and accreditation bodies.

FLUIDIC SOIL SCRUBBER

The concept of this University of Sheffield, Chemical & Process Engineering Department project is to provide a system for separating oil from sandy shale or cleaning soil using water driven through nozzles to dislodge contamination by impact, shearing and cavitation. The system enables soil to be recycled continuously and if necessary without the continuous addition of clean water. A working prototype is being demonstrated to a number of oil/gas service companies and environmental clean-up companies. Final assessment by these potential partners is anticipated in November 05.

Sheffield team make stem cell discovery

Scientists at the University of Sheffield have proved for the first time that human embryonic stem (ES) cells can form the precursors of sperm and eggs in the laboratory, a critical step towards making synthetic versions for infertile men and women.

The findings suggest that it will be feasible either to use stem cell grafts to "rescue" testes and ovaries damaged by cancer treatment, or even to grow fully fledged reproductive cells for use in fertility treatment. Therapeutic cloning would ensure that the stem cells carry the patient's genes.

Harry Moore, who led the research, said: "This is probably ten years away from the clinic. We have a lot more work to do, and we have to prove it is safe."

The study conducted by Behrouz Aflatoonian and Professor Harry Moore investigated whether human ES cells could form primordial germ cells (PGCs) - the precursors of sperm and eggs.

Human ES cells were clumped together into balls known as embryoid bodies, which were then tested to determine how genes were switched on. Some of the cells showed a pattern of gene activity normally seen only in PGCs, and some of these also contained proteins found only in maturing sperm.

The scientists have not yet learnt how to direct this development or to create fully functional gametes. They think the most promising method is to transplant PGCs directly into a man's testis or woman's ovary, where the environmental and hormonal conditions are right to turn them into sperm or eggs.

Innovation Bubbling to the Surface

The Chemical and Process Engineering department at the University of Sheffield is actively promoting its innovations to the food sector and has invented a device which is capable of producing very small bubbles.

Using funding from the Yorkshire Forward programme, the department has constructed a simple, no-moving-part, fluidic device prototype which is capable of producing very small bubbles. In laboratory tests, conventional air flow produced bubbles typically about 8mm in diameter. When the fluidic device was applied these were replaced by small bubbles, typically about 1 mm in diameter.

Simon Butler, Business Development Manager for the department says, "This device has the potential to be at least 10 times more efficient than conventional aerators. This would allow food companies to either process more waste at no extra cost or process the same amount of waste but with reduced costs".

Fluidic and microfluidic techniques also have other potential applications in the food industry, in the form of novel approaches to heating, cooling and cleaning processes.

The University in partnership with Food Processing Faraday is now looking for industrial partners interested in exploiting these innovative approaches.

The above companies have been spun-out by Sheffield University Enterprise Ltd (SUEL) which is the University of Sheffield's wholly owned Technology Transfer Company dealing with intellectual property and commercial exploitation.

For further information about SUEL either contact David Catton, Managing Director on 0114 222 1008 or visit the website www.suel.co.uk and contact one of the Business Exploitation Managers

DRAGONS DEN STAR IS GUEST SPEAKER AT JOINT PRO-SOUTH YORKSHIRE/SUEL EVENT

Pro-South Yorkshire (www.pro-sy.org) and Sheffield University Enterprises Limited (SUEL) joined forces on 30th June to organise an event to discuss how local professional business people might become involved in spin-out companies from the University of Sheffield. The meeting, held at the University's Halifax Hall, was attended by an audience which contained representatives from many of the City's leading professional firms.

David Catton, SUEL's Managing Director, outlined the advantages he anticipated professionals might obtain through playing an active role in technology transfer. He cited the experience of San Diego in Southern California. In 1985, the phasing out of the US Navy dockyards threatened the prosperity of the local economy. The pro-active response of the local professional business community has seen the regional economy transformed in the ensuing 20 years through the creation of 800 high tech businesses, many of which are based on research carried out in the region's universities, particularly UCSD. David proposed that there is an opportunity for the membership of Pro-South Yorkshire, working closely with SUEL, to achieve similar results in our region.

David's presentation was endorsed by entrepreneur and business technology investor Doug Richard in the speech he gave to the invited audience. Doug, who nowadays is well known as a judge on the BBC hit series Dragons' Den, spoke about the exciting prospects of investing in new spin-out companies based on research projects arising from academic research. He described his own experience of the San Diego phenomenon and strongly recommended an open market approach to linking professionals and academics in the exploitation of the output of their research. His insights into what works and what doesn't were appreciated by the audience who asked numerous questions of the guest speaker at the conclusion of his address.

Besides his television appearances, Doug is also the founder and Chairman of Library House, which specialises in spin-out investments and he has more than 18 years experience in the development of new technology ventures both in the UK and the US. Doug has a valued reputation for being fiercely alert and incisive coupled with an infectious enthusiasm for new ideas and plain speaking. His speech evidenced why his advice is sought by all kinds of business investors, entrepreneurs and academic bodies.

Pro-South Yorkshire Chairman, Paul Firth of DLA Piper solicitors in Sheffield commented about the event. *'Investing in spin-out companies is an exciting but high risk undertaking, but there is clearly an opportunity for our members to work with SUEL to develop successful business models capitalising on the results of research projects carried out in the University of Sheffield.'*

ENTERPRISING STUDENTS AT WRCE

The White Rose Centre for Enterprise (WRCE) at the Universities of Leeds, Sheffield and York had the finals of its Business Plan Competition on 30th June here in Sheffield. Seven finalists in the competition made presentations before six judges, who then had an opportunity to question them on their business plans. The field was extremely strong and lengthy deliberations were necessary, but finally a decision was reached, with one overall winner and three runners up.

The overall winner was Charlie Cornwallis with his company Wild Expeditions Limited. Charlie recently obtained his PhD at the University of Sheffield and is launching a company that provides training in exotic locations around the world for budding biologists in wildlife research. It is a niche market, but we suspect he will attract serious nature enthusiasts as well as the nation's university biology students (a market of around 100,000 students). Charlie is founding the company along with Paul Thomas, who also did his PhD at the department of Animal and Plant Sciences in Sheffield and was one of last year winners. Paul's other company focused on cultivating truffles and attracted the interest of one of the dragons on BBC 2's Dragon's Den. Wild Expeditions Limited is set to receive a prize of £10,000.

The runner up, William Christopher of the University of Sheffield, proposes providing Japanese fast food which is also healthy – and for those of us that have tried it, it is certainly tasty! Will received a £5000 prize.

Jonathan Chambers, with his co director, Mark Humphries (University of Sheffield) has the idea of an interactive web-based company which will supply information to those looking for services. Sam Medrington, Neil Blair and Simon Beggs (University of Leeds) are setting up a web-based company specialising in the design and sale of t-shirts with a difference. Both companies received £2500.

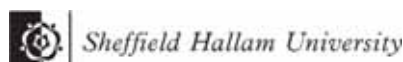
In addition to the prize money, all the finalists are offered mentorship and continuing support from WRCE. They will receive their prizes at WRCE's high profile event, Enterprise in Action, to be held in Leeds on 2nd November. All students and academics from each of the three White Rose universities will be invited to attend.



Charlie Cornwallis with a red jungle fowl



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Enterprise Centre

