

Welcome

Welcome to the June edition of InSpire. In this edition we reveal how a visit to ISIC instigated a £500,000 commission from the Discovery Channel for a Science Special on the Sun; we are also pleased to announce that the Space Apps Challenge hosted at ISIC in April has generated two of the six Global Awards Winners. There is an update on the Space Applications Catapult and the Climate and Environmental Monitoring from Space (CEMS) project. We have also included our regular feature on ISIC Surrey, our Members' Focus and an insight into our next 'Spark' sessions, featuring the Transport and Logistic sectors. We hope you enjoy the read.

The power of communications



In May 2012 Big Wave Productions visited ISIC and the Harwell Space Cluster to explore what cutting-edge British science they could profile in a BBC Science Series on measurement. As a direct result they will be profiling the work of RAL Space and the European Space Agency in the series. The programmes will be shown on prime-time television around the world and also to educational outlets via the Open University. They hope these shows will give both organisations terrific international exposure and also increase the profile of the UK's cutting-edge science capabilities.

Also, during the meeting RAL Space showed clips from STEREO on the ISIC videowall, as a direct result the crew has pitched a Science Special on the Sun to the Discovery Channel. This has resulted in a £500,000 commission for them, the bulk of which will be spent in the UK on cutting edge computer graphics.

The Big Wave team also shared what they had learnt with other leading scientists and senior military officials. This led to leading scientists in the world of Fisheries Protection, Global Warming and Conservation separately visiting ISIC. Senior officials from the British Military also visited, exploring ways to improve marine safety via satellite tracking of icebergs.

The Big Wave team has no idea where these secondary visits will lead but were delighted that all this interest was triggered by one visit. This is a great example of how the sharing of information at ISIC can have broader benefits to the British economy.

Space Applications Challenge – ISIC hosts global winners

The ISIC team was thrilled with the recent news that of the six global winners for the International Space Application Challenge, two teams originated from the ISIC based event. The two awards were - the 'Most Inspiring Award' was given to Planet Hopper, developing an application that visualises Kepler data to allow children and teachers

to explore all the exo-planets that we know about. The other was the 'Most Innovative Award' was given to Strange Desk - who developed an application that allows users to share and analyse the occurrence of strange events with others using social media.

INTERNATIONAL
SPACE
APPS CHALLENGE



The top six awards were chosen from 29 finalists, selected from over 100 submitted solutions at 25 participating locations during April 2012. Fourteen judges from several organisations including NASA, Innovation Endeavors, Talent House and a private astronaut, identified the six winning solutions. Each of the winning six teams will be given a custom tailored support package by Innovation Endeavors to help continue development of their solution.

Another ISIC success, although not a Global winner, was Sam Wilkinson (16 years old) who's 'Space Bread' or 'Aeration & Low Temperature Baking', received third place from the ISIC judges. Sam continued his idea when he returned home, and after four hours, finished his application with the use of a vacuum cleaner and fizzy water. Information on his application to bake bread in space can be found on the following blog site by [clicking here](#).

As ISIC is an organisation created to help drive innovation and new technologies, we will be meeting with individuals and teams to understand their aspirations moving forward, and if applicable, help them develop their applications/solutions further. ISIC can do this by providing additional collaborative support from the space community, helping to identify available funding, and if appropriate, helping these individuals or teams to create a company to capitalise upon their ideas.

For more information on the Space Applications winners please [click here](#).

'Sparking' ideas in the transport sector

Since October 2011, the Applications Innovation Centre (AIC) has been busy hosting 30 different organisations who wish to learn 'what space can do for them'. ISIC offers a 'one stop shop' for potential customers who want to understand what the space sector can offer, from satellite technology to space derived data and services. The AIC provides the perfect environment to explore the possibilities, allowing visitors to learn about the different kinds of satellites and the services they provide. We facilitate structured conversations to 'spark' ideas and capture requirements and we are now exploring eight potential new services with customers. One of the advantages of ISIC is that we offer an independent 'badgeless' environment where potential users of Space can discuss their needs openly and freely without any sales pressure.

Our next sessions will be targeted towards the transport and logistics communities, where there is currently a lot of excitement around the



exploitation of current and future positioning systems (including EGNOS and Galileo) and of Earth Observation. Applications for these include the monitoring of assets and infrastructure; improving the customer experience through better scheduling of resources; integrated intelligent transport and the provision of services in remote locations. But these are just our ideas - we want to talk to you in the transport sector to understand your real issues and find ways in which space can improve services, lower costs and increase margins - building on the excellent work that is already being done.

Look out for our advertised events and invitation to 'Spark Workshops'. If you would like get involved in shaping these workshops with us, or understand how space can help solve 'down to Earth' problems then we would be delighted to hear from you. Contact us at info@isic-space.com.



CATAPULT Satellite Applications update

The Satellite Applications Catapult project team held a very successful workshop at ISIC on the Harwell Oxford Campus on the 3rd May 2012 with over 100 delegates attending. The Catapult team presented the Outline Business Plan that the TSB's Governing Body had accepted and then discussed in small groups the best ways that the Catapult could provide programmes, facilities and links to the applied research community to help drive the development of new applications.

The outputs of the workshop are being considered by the Catapult Delivery Team's Programmes, Facilities and Applied Research Working

Groups. In addition, the team are also exploring how the Catapult will work with major stakeholders such as ESA, how it will be staffed and where it will be located. The Technology Strategy Board has appointed an Interim Advisory Group to help shape the Delivery Team's proposals and to ensure that the Catapult has the best chance to achieve the objectives that convinced the TSB's Governing Body to agree to the creation of the Satellite Applications Catapult.

An important role for the Catapult will be to reach out to other market sectors and to form strong links with the other Catapults that are under development. With this in mind, the Catapult is running a series of workshops as follows: 14 June in Leicester; 26 June in Glasgow; and 29 June in Belfast. For full details of the workshop programme and the latest news on the Catapult, [click here](#).

From Buckingham Palace to ISIC - the visit of CNES

A delegation from the French Space Agency (CNES) visited ISIC on 22nd May 2012, led by their President Yannick D'Escatha. This was a follow up to an ISIC dinner at Buckingham Palace held on the 13th of March this year, hosted by our patron the Duke of York, at which Mr D'Escatha had been a guest. The CNES team were keen to understand how ISIC operates and how we are contributing to the drive for innovation. We explored how ISIC could work with our colleagues in mainland Europe and specifically how CNES and ISIC could bring our complementary skills to bear in new collaborative ventures.

The visit by CNES is one of a number of initiatives being followed up as a result of the dinner at Buckingham Palace. This was attended by the Minister for Universities and Science, David Willetts and the Vice President of the European Commission, Antonio Tajani among other senior figures from Institutions and Industries from around Europe and the UK, which are users of Space.



Buckingham Palace, London.

The dinner was an opportunity to highlight the work of ISIC in stimulating economic growth through innovation in the use of Space across a number of downstream services.

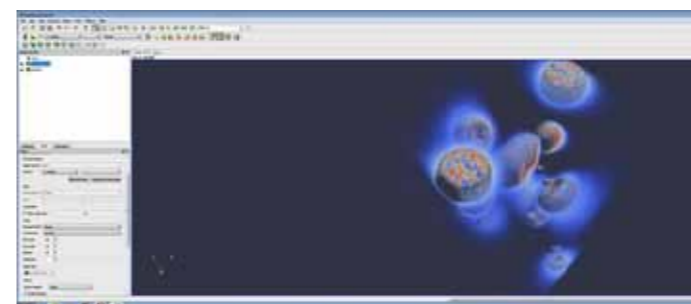
CEMS Update



CEMS continues to make excellent progress with all hardware now in place. After implementing the virtualisation solution and executing the testing programme, CEMS is scheduled to be Open for Business in July. For those keen to find out more about CEMS there is now a strong website presence and we are offering trial usage for members of our User Group for a limited period. In return for free access to the facility User Group members are requested to provide feedback on the CEMS services so that success stories can be shared with the community. For more information [click here](#).

3D Visualisation Cave

ISIC is pleased to announce the launch of a new 3D visualisation facility. The facility is equipped with state-of-the-art hardware and software for visualising and exploring large 2D and 3D datasets. This includes virtual environments, engineering models and scientific information, ranging from Earth Observation and climate data to 3D models of complex molecules. The facility seats from six to 34 people (depending on room design) and provides complementary capability to the ISIC videowall system.



3D Cave imagery.

The facility was installed by Virtualis and is operated by STFC. It consists of two high-luminance active stereo 3D projectors, giving a total screen resolution of 3400 x 1200 on a large 5.5 x 1.9 m screen, together with a high-power graphics workstation, a head-tracking system and a touch-screen command-and-control system. Available software includes Geo-visionary, Paraview, Chimera, TechViz, OpenSceneGraph and 3D Slicer.

Please contact Lorraine Moody for booking enquiries: Lorraine.moody@isic-space.com

ISIC Surrey Update



ISIC-Surrey members have the opportunity to be part of the SETsquared Investor Readiness Programme and Investor Event 2012.

The SETsquared Partnership is a collaboration of the Universities of Bath, Bristol, Exeter, Southampton and Surrey that maximises the universities' impact on the UK economy by supporting enterprise and innovation.

The partnership will host a prestigious Annual Investment Event in London on 18th October 2012, starting at 8.00am to showcase young ventures seeking investment capital. The event brings together the cream of innovation and technology start ups in areas such as electronics, mobile communications, information technology, engineering and biotechnology.

The invited audience is drawn from a cross section of active investors in early stage high technology ventures including business angels, specialist venture capitalists and corporate financiers. Also invited in the audience are a number of government funding specialists.

Companies - whether presenters or exhibitors - that have participated in the past four years have raised over £85 million of investment.

ISIC-Surrey members (or SETsquared - Surrey) automatically qualify to attend our Investor Readiness Training Seminar that Ben Partridge is running on the 11th/12th of July. Please contact c.goff@surrey.ac.uk to book your place on the event.

If you would like to know more about the SETsquared membership; attending the Investor Event and/or attending our Investor Readiness Training, please contact Charlotte Goff on the email address above.

Members update Telespazio VEGA



Telespazio VEGA (formerly VEGA Space) is one of the leading names in the European Space Sector and a founder member of ISIC. Telespazio VEGA developed the Flight Operations System for the Operations Centre, which was tried and proven against a 'virtual' mission, utilising their satellite simulations expertise. They are also providing project management support for the TechDemoSat programme, as part of the ISIC team to procure the Mission Planning System (MPS) that will be needed to coordinate the mission operations of TechDemoSat-1. (For more information please see Inspire Issue 2)



Telespazio VEGA is owned by Telespazio SpA, (a Finmeccanica/Thales company) and one of the world's leading companies in satellite systems and applications, satellite operations, geo-information, and networks and connectivity. Telespazio VEGA has operations in the UK, Spain and Holland. They provide robust and reliable ground and space segment systems for satellite mission and develop and implement downstream applications that make use of satellite data and services and provide expert consulting and engineering support.

Working in partnership with space agencies, government departments, commercial and global organisations Telespazio VEGA is celebrating 50 years in the space industry and is proud to be a member of ISIC and strengthening the UK's space community.

For more information on Telespazio VEGA [click here](#).

ESA ground segment leadership team visit ISIC



ESA delegation and hosts.

In close collaboration with ISIC staff and representatives from academia and industry, the UK Space Agency developed an intensive agenda for the European Space Agency (ESA) visit to ISIC, that fostered a good opportunity for the exchange of information and detailed discussions about ground segment issues. On Monday 14 May, ESA representatives, including Dr Gunther Kohlhammer (Head of ESA Earth Observation Ground Segments & Mission Operations), Pier Bargellini (Head of GMES Mission Management & Ground Segment Development) and Guenther Landgraf (Head of Infrastructure & Engineering), were welcomed to ISIC by members of the UK Space Agency Ground Segment Team and given an overview of ISIC and its scope and objectives. This was followed by a tour of the facilities. Particular emphasis was given to the Climate for Environmental Monitoring from Space (CEMS) project, due to its innovative concept, relevance to supporting the excellence of the UK climate community and its Cloud computing technology - all of growing interest to ESA. The Satellite Applications Catapult centre, and the Calibration Centre for Satellite Instrumentation (CCSI) were also presented.



Demonstrating the Application Innovation Centre.

The following day ESA presented a comprehensive brief on their plans to an academic and industry audience, followed by a Q&A sessions and the opportunity for 10 minute one-to-one sessions. The meeting was deemed highly successful – with the ESA team commenting that the ISIC concept should also be presented to ESA Member States. Furthermore, the ESA team considered the UK plans for a Collaborative Centre to be well advanced and compared well with other proposals they had seen. Many favourable comments were also received from UK attendees who were pleased to have the opportunity to meet ESA representatives. The UK Space Agency was pleased with the efficient information flows and ISIC looks forward to further collaboration with ESA in the future.

ESA BIC – hits first year targets



The European Space Agency's Business Incubation Centre Harwell (ESA BIC Harwell) has hit its target of signing up ten

tenants within a year of launch. With the announcement of three new tenants, the ESA BIC, (managed by STFC), is now home to ten hi-tech, pioneering start-up companies, each of which will translate cutting edge space technologies into viable and profitable businesses in non-space industries.

During their periods of tenancy, which can last up to 24 months, each company will benefit from an extensive package of services and support provided by ESA BIC Harwell, including a £41,500 product development grant, office space, free access to ESA and UK Science and Technology Facilities Council (STFC) expertise, and support for developing business plans and financial management skills.

Managed by STFC Innovations Limited, STFC's commercialisation company, the ESA BIC Harwell is one of six ESA business incubation centres across Europe providing open high-tech innovation environments where technologies and applications, developed through space research, can be translated by innovative start-ups into viable businesses for a wider non-space market.

For more information [click here](#).

Events

ISIC Open Days

ISIC will be holding a series of Open Days for local businesses/organisations that want to find out more about ISIC and its facilities. The tours will be available on:

Wed 4th July	11:30 to 12:15	Thur 26th July	11:30 to 12:15
Thur 5th July	11:30 to 12:15	Thur 2nd August	11:30 to 12:15
Tue 17th July	11:30 to 12:15		

If you would like to find out more / register for a tour, please email your details to: Lorraine.Moody@isic-space.com

Academy @ ISIC

On 27-29 June, ISIC is hosting a National Space Academy (NSA) event - Academy @ ISIC - a three day workshop providing student masterclasses, careers workshops and teacher training.

The NSA use cutting edge space exploration and research to teach students, and inspire teachers. The three days is scheduled as follows:

- Day 1 - outstanding teacher and Academy director Anu Ojha teaching a physics masterclass to year 12 physics students.
- Day 2 - ISIC host a Space Careers event with representatives from ISIC member companies and other space industry organisations giving talks on how they became a part of the space sector.
- Day 3 - be a teacher CPD course.

Although the Academy also offers training for non-specialists in physics, this course will be aimed at physics teachers and will use space as a context for engaging students with the physics curriculum.

For more information please [click here](#).