

# Innovations

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## Bug battling firm Byotrol relocates R&D to STFC Daresbury Laboratory's Innovations Technology Access Centre

The Science and Technology Facilities Council's (STFC's) pioneering Innovations Technology Access Centre at the Daresbury Science and Innovation Campus (DSIC) has become the new R&D home of 'bug battling' firm Byotrol.

**M**anchester-based firm Byotrol is the first long-term tenant at the new STFC Innovations Technology Access Centre (I-TAC) following the recent relocation of their principle microbiology R&D operations from Erlangen in Germany to the North West.

I-TAC offers flexible and affordable access to £3m of cutting-edge scientific equipment in 16 fully-equipped biological, imaging, materials and physical science laboratories. Businesses can make full use of the wide range of facilities available at the Centre including leasing their own exclusive-use, 'lock and leave' laboratories. Companies not located at the Centre are also able to access a number of multi-user laboratories that

are available on an hourly basis.

A presence in the Centre puts companies at the heart of the rapidly growing DSIC network, which, in addition to providing specialist support from STFC's own highly skilled scientists, enables companies to tap into the knowledge base of the leading North West academic institutions. This high-tech community also allows access to the facilities, business support services and collaborative research and development opportunities of the nearby Daresbury Innovation Centre (DIC).

Byotrol has developed a patented, next generation hygiene technology which is described by leading experts as having the characteristics

[more](#)



of the ideal biocide. Its technology is used in sprays, mousses and wipes to combat bugs and viruses. Tests and trials have shown that it has long-lasting, anti microbial control in a much safer and more caring way than traditional bleaches, disinfectants and biocides which can be damaging and toxic to people and animals.

Byotrol will be using the laboratories and high-tech equipment available at I-TAC to develop specific versions of the technology for the healthcare, food production, animal welfare and consumer markets. They will also work to develop the next generation of the technology and on new applications for Byotrol across a broader range of markets requiring safe and long lasting microbial control.

**Stephen Falder**, Byotrol's founder and Deputy Chairman commented:

*"We are pleased to have centred our R&D base at the Innovations Technology Access Centre. Moving to the laboratory at Daresbury has given access to a wide range of equipment and specialists as well as putting us into a number of innovation networks and fostering the working in partnership with experts at STFC. All of this is aimed at achieving our goal of increasing our capacity to find a whole range of new and valuable uses for the technology."*

**Chief Executive of STFC Keith Mason**, added *"This is fantastic news for the new Centre. Byotrol is a growing and very innovative company and I am delighted to be able to work with them. The Innovations Technology Access Centre aims to make it easier for firms to carry out the research which is much needed to enable them to thrive in a competitive and increasingly global business environment. I hope by working alongside STFC's scientists, academic and other companies based at the Daresbury Science and Innovation Campus, Byotrol are able to really make their mark with their revolutionary technology."*

**Businesses interested in finding out more about the Innovations Technology Access Centre can contact [paul.vernon@stfc.ac.uk](mailto:paul.vernon@stfc.ac.uk) at the Science and Technology Facilities Council on +44 (0)1925 603822.**



# \*RSE/STFC Enterprise Fellowships 2010

STFC are announcing a call for the RSE/STFC Enterprise Fellowships Scheme with a closing date for applications of 4th May 2010 and a starting date of October 2010 This scheme is funded by the Science and Technology Facilities Council (STFC) as part of the Council's Industry Programme and delivered by The Royal Society of Edinburgh (RSE).

Enterprise Fellowships are designed to encourage exploitation of the STFC research programme. Applications may be submitted on any subject provided that the original research or technological developments have their origin as part of a programme largely funded by STFC (formerly PPARC and CCLRC), or in the case of the nuclear physics programme previously funded by EPSRC (Engineering and Physical Science Research Council).

## Fellowships provide:

One year's salary costs and some additional support funding, and can be held at any UK Higher Education Institution or Institution that agrees to host the work. The Fellowships provide a unique opportunity for researchers to spend a year gaining business training whilst developing the commercialisation of their existing research. The training provided aims to support fellows through an active process of business planning and implementation and provides access to mentors and business experts.

Please contact [afraser@royalsoced.org.uk](mailto:afraser@royalsoced.org.uk) for further details on the scheme and contact [sue.fuller@stfc.ac.uk](mailto:sue.fuller@stfc.ac.uk) on questions of eligibility.



**SHOW YOUR IDEAS to the WHOLE UNIVERSE**

RSE\*/STFC  
**ENTERPRISE FELLOWSHIPS**  
Support to commercialise any STFC funded research

- A year's salary to develop your commercial proposition
- Business training to help you to prepare a viable business plan
- Access to networks of mentors, business experts and professional advisors

For application forms and further details visit the RSE website:  
[www.royalsoced.org.uk/research\\_fellowships/stfc](http://www.royalsoced.org.uk/research_fellowships/stfc)

NEXT CLOSING DATE  
4 MAY 2010

Science & Technology Facilities Council

THE ROYAL SOCIETY OF EDINBURGH

enterprise fellowships

\*The Royal Society of Edinburgh, Scottish National Academy, Scottish Charity No. SC000470.

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# UK Nanophotonics Research Receives Boost from Donation of FDTD Solutions Licenses

Vancouver-based Lumerical Solutions, Inc. announced the donation of ten FDTD Solutions Engine licenses to ScotGrid, a high performance computing facility in the UK. Each donated Engine license will enable academic customers across the UK to run, at no additional cost, simulations on ScotGrid's 560 processing cores. It is expected that the donated licenses will enable customers to perform large-scale design of devices across a diverse range of applications in biophotonics, display technologies, solar energy, optical communications, sensing and imaging.

**According to Michael Newland, Lumerical's CEO.**

*"We are excited to be working with ScotGrid to help our UK customers make more timely discoveries and get greater value out of their investment in our simulation products. We are very happy to have found such a credible and competent partner as ScotGrid who shares our goal of strengthening UK nanophotonics research."*

*"ScotGrid is delighted to be in partnership with Lumerical to reach new research communities in the field of optics and photonics," according to Douglas McNab, the Deputy Technical Coordinator of the ScotGrid facility in Glasgow. "The donated FDTD Solutions Engine licenses from Lumerical has been easily integrated into our grid middleware and the first users are already starting to reap the rewards of the large computing resources on offer at ScotGrid." Glasgow, the leading UK grid site with over 1,900 job slots is already involved with existing projects in the UK as part of GridPP and internationally as part of EGEE and WLCG.*

ScotGrid is accessible to any UK academic researcher, but before accessing the system the user must first apply for access. Once their application has been approved, prototyping nanophotonic components using ScotGrid begins by first setting up the simulation file using FDTD Solutions on the user's local machine. Once the design file has been prepared, it is submitted to ScotGrid where one of the ten donated Engine licenses simulates the performance of the device on as many processing cores as the user specifies.

Researchers at the University of Glasgow are already generating results more rapidly by using Lumerical's FDTD Solutions in conjunction with ScotGrid. "A large number of users in our department rely on FDTD Solutions as an integral tool to conduct research in a wide range of fields, including biophotonics, terahertz photonics, and optoelectronics," according to Dr. Marc Sorel, a lecturer in the Department of Electronics and Electrical. "As users of FDTD Solutions begin to work on more complicated three-dimensional models, the ability to run large-scale FDTD jobs on ScotGrid has enabled us to accelerate our research efforts." [more](#)



**The Nano Research Group at the University of Southampton is another group that will be making use of the combined capabilities of FDTD Solutions running on ScotGrid.**

“We use FDTD Solutions to explore how optical integrated circuits composed of photonic nanowires and photonic crystal can be applied to various technologies of industrial interest, including optical interconnects, logic switches, sensing, illumination and display technologies,” says Dr. Harold Chong, a lecturer in the School of Electronics and Computer Science. “The potential to run many simulations at the same time on the large computing resources of ScotGrid will have an immense impact on the research productivity of my group.”

More information about how users obtain access to ScotGrid can be found at [www.scotgrid.ac.uk/fdtd](http://www.scotgrid.ac.uk/fdtd), while information about the capabilities of FDTD Solutions can be found by visiting [www.lumerical.com/fdtd.php](http://www.lumerical.com/fdtd.php).

### About Lumerical Solutions:

Since its inception in 2003, Lumerical has pioneered breakthrough simulation technologies that help bring new optical product concepts to life. By empowering research and product development professionals with high performance optical design software that leverages recent advances in computing technology, Lumerical helps optical designers tackle challenging design goals and meet strict deadlines. Lumerical’s design software solutions are employed in more than 25 countries by global technology leaders like Agilent, ASML, Philips, Olympus, Samsung, and STMicroelectronics, and prominent research institutions including Harvard, NIST, the Max Planck Institute, and the Chinese Academy of Sciences. Discover how Lumerical can help you meet your own design objectives by visiting us online at [www.lumerical.com](http://www.lumerical.com).

### About ScotGrid:

ScotGrid is collaboration between the universities of Glasgow, Edinburgh and Durham. It is part of the Enabling Grids for E-science (EGEE) project and GridPP. EGEE is Europe’s leading grid computing project designed to enable high quality computing facilities for a diverse range of disciplines and GridPP provides the high performance computing for UK particle physics research. For more information on ScotGrid, please visit [www.scotgrid.ac.uk](http://www.scotgrid.ac.uk).

**Contact: Todd Kleckner, Director of Sales and Marketing Lumerical Solutions, Inc. 604-733-9006 Ext. 201 [www.lumerical.com](http://www.lumerical.com)**

# European Free Electron Lasers Consortium (EuroFEL) Meets Industry, Workshop 1st March 2010, Berlin

**Free Electron Lasers (FELs) are the most advanced of the accelerator based light sources, which can deliver wavelengths spanning from infrared to ultraviolet and X-rays (IRUVX).**

**T**hey permit investigation of ultra-fast (femtosecond) dynamics phenomena on a nanoscale region, understanding of which will underpin the exploitation of new high technology areas such as nanotechnology, biotechnology, advanced materials and catalysis.

Hence a number of research centres and governments in Europe, USA and Asia have initiated construction of such new facilities at a cost of several hundred million Euros each.

IRUVX-PP is the Preparatory Phase in support for the establishment of EuroFEL Consortium, which is a distributed Free Electron Laser facility that links complementary national FEL facilities into a unique European Research Infrastructure ([www.eurofel.eu](http://www.eurofel.eu)).

Nine partners within the IRUVX-PP consortium, including DESY (D), ELETTRA (I), MAXLAB (SE), BESSY (D), STFC (UK), INFN (I), PSI (CH), IPJ (PL) and SOLEIL (FR) would like to invite the relevant industrial companies to a workshop to discuss:

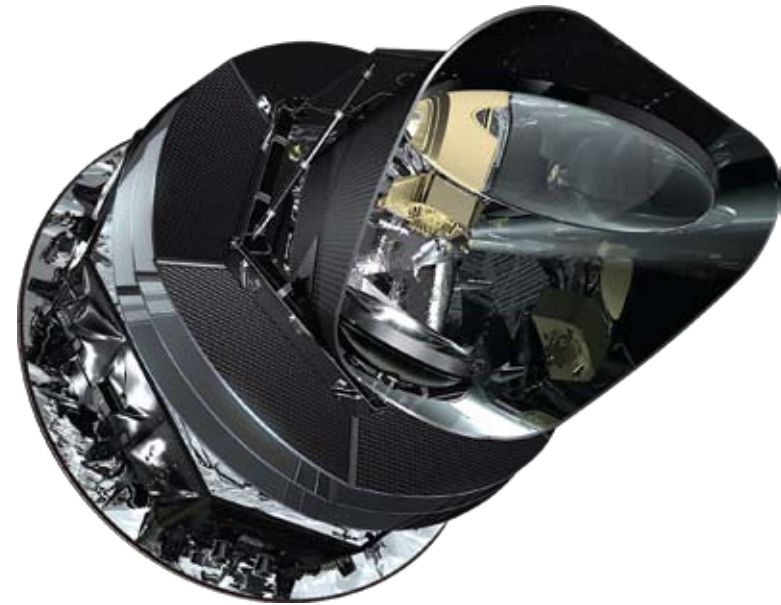
**FEL technology** (Photon and e-beam diagnostics, X-Ray optics, Laser systems, Synchronisation and Control systems).

**Existing and new R&D/collaboration required  
Industry involvement and opportunities**

This one day industrial workshop is being organised in Berlin on 1st March 2010 and the industrial partners will have a chance to meet 20 engineers and scientists from all European facilities and discuss current developments and future R&D needs in the key areas of FEL facility construction.

To register please visit the workshop site: [www.iruvx.eu/industrymeeting2010](http://www.iruvx.eu/industrymeeting2010) and follow the link to the Registration.

For further information please contact Dr Vlad Skarda on [vlad.skarda@stfc.ac.uk](mailto:vlad.skarda@stfc.ac.uk).



# Future Event

## SpaceTech 2010: Space Technology Symposium

**STFC Innovations Club and European Space Agency (ESA) Technology Transfer Programme celebrate UK achievements in advanced technologies including space and their applications to other sectors. If you are an industry, military, or government representative looking for high technological solutions then don't miss this special chance to explore the opportunities at this event to be held on 10th March 2010 at the STFC's Rutherford Appleton Laboratory on the Harwell Science and Innovation Campus.**

**T**he programme includes technical presentations from leading technologists in industry and academia, which will be supported by an exhibition featuring the majority of UK space players from both academia and industry. In today's challenging business environment these exciting advanced technologies could give your company the competitive edge that it needs.

Space research, has focused on developing and perfecting technologies and processes to

unprecedented levels such that they can be transferred or spun-off to new and often highly beneficial applications back down on Earth – particularly those which improve everyday life. The range of these applications is enormous and organisations have established special programmes to facilitate such technology transfer and commercialisation. In the case of the European Space Agency, technologies originally developed for space activities are transferred or spun-off to

terrestrial applications through its Technology Transfer Programme.

Today, this expertise is improving our daily lives by providing a wealth of innovative solutions for products and services on Earth. Groundbreaking European space technologies are becoming increasingly available for development and licensing to the non-space industry through the process of technology transfer. [more](#)

# Objectives

**This forum provides a unique opportunity for commercial companies to network and exploit advanced technologies developed by leading European research organisations with applications across many market sectors – including :**

- Energy and Environment
- Healthcare and Biomedical
- Defence and Security
- Innovative Materials
- Sensors and Detectors
- Electronics and Instrumentation

**The event will provide participants/delegates:**

- An opportunity to discover the latest technologies from the space industry
- The chance to make direct contact with the UK's leading technology groups
- Advice on how to use new technology to gain commercial competitive advantage
- Case study examples of successful transfers between academic know-how to industry
- The chance to network and identify potential business partners

Registration details can be found at [www.stfc.ac.uk/forms/innovationsclub.aspx](http://www.stfc.ac.uk/forms/innovationsclub.aspx). ESA is actively promoting the spin out of these technologies into diverse non-space applications. ESA announced in November 2008 its commitment to build a research centre located at the Harwell Science and Innovation Campus in Oxfordshire, the first of its kind in the U.K. There is also the opportunity to exhibit at this event. Please see [www.stfc.ac.uk/ke/events/spacetech.aspx](http://www.stfc.ac.uk/ke/events/spacetech.aspx) for more information.



## Innovations Directorate Office Manager Change

**Andi Kidd**

The Swindon Office team would like to welcome Andi Kidd as our new Office Manager. He has worked for the Research Councils for over twenty years and has been in the Astronomy section for five years.

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