

Laser 2009



Laser 2009 World of Photonics at Munich defies the recession with record attendance and optimism for laser-manufactured photovoltaics, biophotonics and illumination. NUI Galway was well represented at the Messestadt in Munich, Germany from June 15th to 18th 2009. A keynote address on the theme of Adaptive Optics was given by Prof. Chris Dainty, Vice-President of the Optical Society of America for 2009, from the Applied Optics Group in the School of Physics at NUI Galway. Dr. Gerard O'Connor, Alan Conneely and Fabien Bernard from the National Centre for Laser Applications at NUI Galway were also in attendance. An interesting cross-disciplinary note was struck by the presence of Dr. Thierry Daubos, from the History discipline in the School of Humanities at NUI Galway,

whose paper co-authored by Professor Dáibhí Ó Cróinín acting head of History at NUI Galway, was entitled: "Comparison of carved panels from two Irish high crosses using laser scans". Applications of lasers and physics in general in the world of art and artifacts are significant in market size. Ignite Technology Transfer NUI Galway was represented at the trade fair by Dr. Pat Kelly, Commercialisation Executive assigned to Physics and Engineering, including Photonics. He held a number of introductory meetings with Chief Executive Officers and other senior management of target companies to discuss new technologies emerging from the School of Physics, including laser drilled hole breakthrough detection technology, optical inspection technology for laser drilled tube components such as catheters and nozzles, and novel micro-optic assembly technologies.

A number of national exhibit stands were organised at the trade fair, to give a cost-effective marketing umbrella for small companies in the lasers and optics space. The Netherlands, Germany, Scotland, France, Canada, China, and in an interesting departure the USA organised by the US Department of Commerce, all had national pavilions stands within which their indigenous companies could market their products and processes. There is a lesson here for future Irish co-operation in marketing, as many Irish companies and institutes were not visibly represented by a stand, and the few who were found themselves scattered to different areas of the trade fair, without a focus. With 1,040 exhibitors (2007 LASER World of PHOTONICS 2009 set a new record, despite the recession. These trade fairs are of particular value to the Technology Transfer Office by affording the opportunity to meet and introduce inventors to multiple licence prospects at the one site over a two-day period. These meetings provide important exposure of researchers to market realities. "This is the one place where you can get one-to-one discussion time with chief executive officers and chief technology officers, because they are here to talk, listen and learn, away from the pressures of their offices.", said Dr. Kelly. "Invaluable off-the-record market information is picked up by keeping eyes and ears open. One inventor who was here got several meetings with senior company managers to discuss his invention, and found the exercise of great value."

NUI Galway winner of this year's Inter-college Technology Development Competition



NUI Galway students who took part in the Inter-college Technology Development Competition (l-r) Ilko Grigorov, Eoghan Clifford (winner), Simrn Kaur Gill and Peyman Nasirifard.

The winner of this year's Inter-college Technology Development Competition is Eoghan Clifford, Research Engineer from NUI Galway's College of Engineering and Informatics. The winning technology is based on developing a novel integrated process technology to convert organic carbon, solids, nitrogen, phosphorus, odours and greenhouse gases (present in municipal, industrial and agricultural biosolids) to high-value useful products in a market worth about € 3.5 billion per annum in Europe alone. The Inter-College Technology Development Competition is a collaborative programme between NUI Galway, TCD and UCC and is funded by

the Higher Education Authority (HEA) under the Strategic Innovation Fund (SIF) which includes multidisciplinary teams and cross-university teams working together on the commercialisation of research and technology transfer. One of the competition organisers Fiona Neary of the Ignite Technology Transfer Office, NUI Galway said: "The standards were very high and the expert panel made up of Venture Capitalists, funding agencies, business and academic professionals were extremely impressed by the level of technologies showcased. It was an exciting event where feedback from the experts revealed that more entrepreneurial training with a strong focus on market validation

and financial strategy is critical to deliver successful commercial opportunities". Throughout the programme participants from NUI Galway, TCD and UCC were given training and mentoring to assist them prepare and present their commercial opportunities to an experienced panel. The variety of technologies ranged from a bartering system for online services, the 'Next Google', solar technologies, knowledge transfer algorithm to minute batteries. Ms Neary added: "These emerging technologies with the convergence of innovation, training and commercialisation will help deliver Irelands Smart Economy of the future". Dr Michael Rodgers from NUI Galway's College of Engineering and Informatics, and supervisor for the winning project, said: "It is very exciting to be part of the winning team. There is an urgent need to develop new technologies that can sustainably process increasing volumes of biosolids generated during the treatment of municipal, agricultural and industrial wastes. I would like to extend my congratulation to Eoghan and the other members of the team, Edmond O'Reilly, Eimear Ruane, Kathy Carney and Dr Aoife Keady".



Failte to the summer edition of Ignite TTO

The message from the Ignite Technology Transfer Director Dr John Kavanagh is "A major focus in the NUI Galway Ignite Technology Transfer Office in 2009 is job creation". Six new companies have been created in the first half of 2009. This process is being driven by the formation of a dedicated spin out team within the TTO, in conjunction with our Entrepreneurial programmes. Particular focus is being given to the choice of business partners and the strengthening of the company organization by targeted recruitment. The recent EI initiative "Business Partners Programme" is being actively leveraged to complement the technical skills of NUI Galway entrepreneurs with experienced managers in the areas of business organization, commercialization and marketing.

Summary of Some Key TTO Achievements to date in 2009:

- 6 new companies formed in the first half of 2009
- 27 patents filed so far in 2009
- 3 license and option agreements executed so-far in 2009
- NUI Galway Technology EI 'one to watch' winner
- Inter college Technology Development Competition winner

The precursor to a patent is an invention disclosure and 32 invention disclosures were processed so far in 2009 thus ensuring a strong future pipeline for patents. The delivery of 59 patents from research income of €52 million in 2008 and 27 patents to date in 2009 represents excellent value for money, being on

average a cost of €0.88 million per patent in 2008. The commitment of the research community at NUI Galway to excellence in applied research programmes and the support of collaborative projects with industry has also aided the Ignite Technology Transfer Office in its ability to deliver such results, as has the ongoing university support to basic and applied research programmes. In the midst of the downturn in the economy this shows the level of research, technology development and commercial outcomes has continued at a robust pace for the NUI Galway Ignite TTO. We plan to continue in our pursuit to beat this recession and to play a strong role in the new national 'Task Force' being set up to build Ireland's Smart Economy.

NUI Galway Technology Winner of Enterprise Ireland's 'ONE TO WATCH' award



(L-R) Dr. Bruce Murphy, An Tánaiste Mary Coughlan T.D. and Hugh Cooney Chairman, Enterprise Ireland.

The inventor of a tiny device containing micro-blades and a balloon that can cut through blockages in human arteries has won Enterprise Ireland's (EI) 'One to Watch' Award 2009. Dr. Bruce Murphy, a mechanical engineer with expertise in vascular disease research, was presented with the award by An Tánaiste Mary Coughlan T.D. at the EI Applied Research Forum 2009 in the Guinness Storehouse 18th June 2009. Congratulating Dr. Murphy on his win, the Tánaiste said; "Irish industry is

already benefiting enormously from the knowledge and technology generated in our third level institutions. Dr. Murphy is an excellent example of this technology transfer system in action. With support from EI, he identified a need for a better medical device, developed his unique solution and linked up with entrepreneur Tim McSweeney to produce the device for sale in the global market which is worth \$1.9 billion, for peripheral vascular devices. It is this type of high value company that the Government, through Enterprise Ireland is focused on and I am pleased to learn that seven new high value companies like this one have already emerged in 2009" she said. The device will help the 500,000 people worldwide that suffer from end-stage renal disease every year. Patients with this disease require dialysis 2-3 times per week which can result in blockages in their bloodstream. The device was invented during research Dr. Murphy carried out while at the National Centre for Biomedical Engineering Science, NUI Galway. Another use of the device is in the treatment of peripheral arterial disease,

which results in around 1,000 people in Ireland every year having a limb amputated because the main artery in their arm or leg gets blocked by hardened plaque which cuts off the blood supply. The award was presented in front of 250 researchers attending Enterprise Ireland's Applied Research Forum 2009, an event which focused on moving more valuable intellectual property and new technologies into companies through the national technology transfer system. Dr. Neil Ferguson from Ignite, NUI Galway's Technology Transfer Office, believes that this invention will improve patient care and is excited about its commercial potential. He said "The patents that protect this invention from other firms developing copy-cat devices are amongst the 114 patent applications filed by NUIIG over the last 3 years. During this period we have been very successful in generating over 36 licence agreements to both existing and start-up companies. More importantly, we have facilitated 12 start-ups over the same period which plays an important role in the development of our economy".

The services offered by the TTO are:

- Manage University IP – protection, commercialisation and enterprise development
- Encourage the establishment of start-up companies and support a Campus Company Programme (CCP) and start up programme (SUS)
- Establish partnerships with industry and facilitate collaborative research projects
- Manage the Campus Innovation Centre and Bio-incubation facilities (24 companies and 6 hot desks)
- Deliver policy, processes, guidelines and skills development for researchers and stakeholders
- Build on new business partnerships of investors, angels and management teams for NUIIG

Promoting your technology is vital to your success

Getting people to understand the benefits of your technology can be vital to its success. To do this you need to clearly communicate your products uses and benefits. Be it for investors, consumers or anyone else that would be important to its success. For help in this area a professional visual communications company is key. At Design Associates we specialise in becoming part of your team, through a process of us gaining an understanding what you wish to communicate and then

clearly and professionally communicating this to your target markets. We can assist you in the overall branding of your product/service, the design and print of all your promotional needs, the design of your communication material (powerpoint etc.) and the design and development of your website. For more information on this you can visit www.designassociates.ie or call 091 862933. Located on the grounds of the university, beside the Technology Transfer Office we are easily accessible to all.

Technology Licensing Best Practice

Whether you intend to licence in third party technologies or licence out your own, a licence agreement is an essential requirement. A licence is a permission to do something that would otherwise be prohibited by law. The provisions of the licence agreement will depend in each case on the technology being licensed. Whilst some provisions will be of greater importance to one side than the other, it is important to all parties concerned that the licence agreement is clear and unambiguous. For example, if you licence in a certain technology and develop an improvement to it, who owns the improvement and what can you do with it? In what circumstances would the royalties payable be reduced (if any)? What minimum royalties or other objectives are required to achieve in order to maintain the licence? What are your

reporting requirements? What amount do you have to contribute toward patenting costs? What happens in the event a dispute arises? These and all other issues relevant to the commercial arrangement between the parties should be outlined in the licence agreement. Typically, the party granting the licence (the Licensor) assumes the responsibility of drafting the licence agreement setting out under the first draft the terms on which the Licensor is prepared to licence its technology. Thereafter, it is a matter of negotiation between the parties to agree the terms of the licence agreement. Depending on the complexity of the issues, negotiations may take some time before final agreement is reached. Once the parties finally agree and enter into the licence agreement, they become legally bound by its terms and

their respective obligations toward the other party commence. It is important to be aware (and ensure your relevant personnel are aware) of your rights and continuing obligations under the licence agreement. This may help avoid disputes and/or the revocation of the licence. Indeed, if the licence performs well, it may even open up other licensing or commercial opportunities. It is advisable to seek legal advice during negotiations and before entering into any such licence agreement. Discussions entered into prior to the licence agreement should also be governed by appropriate undertakings of confidentiality. TSL are consultants, advisors and negotiators in the field of IP and specialise in a range of intellectual property matters. For more information, see www.tsl.ie or contact 091 790330.

Start-Ups in 3rd level Innovation Centres really do work

A Company profile – SwiftAccounts.ie (Novus Via Ltd.)

Location	NUI Galway Innovation Centre and on the web at SwiftAccounts.ie
Name	SwiftAccounts.ie
Target Customer	Any single person enterprise looking to sort out the financial side of their business with a simple but powerful tool. Swiftaccounts.ie is one of the first applications in the world that's dedicated to helping the single person enterprise.
What pain does it solve	The ultimate pain for all one-person businesses: ACCOUNTS. From our surveys we found the BIG pain for 'solopreneurs' was the day-to-day administration of their business, like expenses, VAT returns, tax documents, invoicing etc. which was preventing them from getting on with their core activities. Swift is all about getting sorted upfront so you can get on with your business and your life. Invoicing is a breeze, VAT return calculations are 'automatic', cash flow is shown graphically and tax forms are explained in sequence to their arrival in the post!
Reference from Beta user	Paul O'Connor of MyHat.ie is among the Beta testers and says: "Michael is on a mission and I am converted. He's a really enthusiastic guy and that is reflected in the generosity of the product – it goes way beyond what you'd expect for the price, and nails the accounting function for small businesses."
Why it all started	I've been admiring and studying web-based business systems around the world for many years now. The one area that I felt let down was in my own accounting. I knew I needed something that would not challenge me, would be easy to use, and would let me get on with making money. So Swift was born from personal frustration." Michael FitzGerald, Founder & CEO
Launch plans	Beta testing Summer '09. Launching Autumn '09. If you want to participate in beta testing or register for launch, visit www.SwiftAccounts.ie
Contact	michael@swiftaccounts.ie or 091 473138



Screen shot showing Cashflow overview from SwiftAccount.ie

Get collaborating! INNOVATION PARTNERSHIP PROGRAMME

Building relationships, partnerships and trust between industry and academia is of utmost importance to NUI Galway TTO and one which can be of mutual benefit to both parties especially when it can lead to commercial successes.

The Innovation Partnership Programme is one framework available to support collaborative research and partnerships between Industry and the third level research institutions. This initiative offers, through funding agencies, financial support to companies who engage in collaborative research projects with Irish universities and Institutes of Technology. Enterprise Ireland provides grants of up to 80% towards eligible costs of such research projects.

During the past 3 years alone, the NUI Galway TTO have been extremely successful in securing funding for such Innovation Partnership collaborative projects. *Since 2006 over 70 collaborative research projects were submitted to Enterprise Ireland which has resulted in an income of in excess of 5million funding to NUI Galway, lead to graduates being placed in Industry, patents being filed and 3rd party commercial license agreements being exploited.*

In summary as a result of the NUI Galway projects;

- Industry has seen an increase in the development potential of their business
- R & D teams have secured access to technologies which have been developed by research centres in the third level institutions.
- Development of a relationship between research experts and industry and as a result created cost-effective approaches to innovative products and process development.
- This model allows industry the freedom to concentrate on more strategic tasks in product development.
- Opportunity for researchers to test their research in an industrial environment.
- Engagement with companies that are closer to the customer and market.

If you have a research idea and would like an opportunity to collaborate with a third level institution, please give the TTO a call and we can discuss in confidence.

Active Technology Transfer in NUI Galway

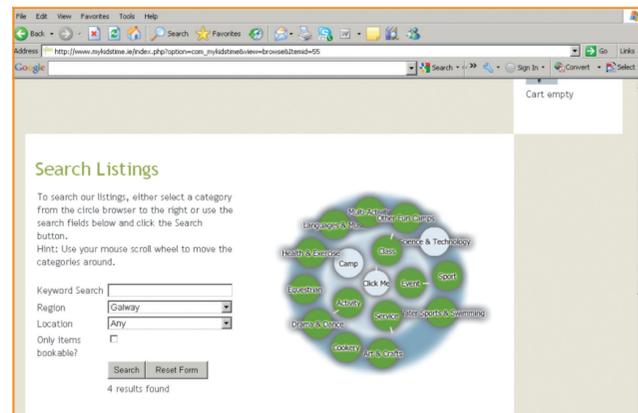
"This is pure Technology Transfer in action and a commercial success for the Digital Enterprise Research Institute (DERI) in NUI Galway, while at the same time assisting a local company mykidstime.ie." says John McGuire, Technology Transfer Office, NUI Galway.

Mykidstime.ie is an information portal aimed at parents and their children, with a full range of local listings for activities, classes and clubs for children of all ages, as well as information on services and events for children and families. The website enables you to search listings, subscribe to free newsletters, read interesting articles, find suggestions for things to do. The Company Mission is "To be the best listings website for parents looking for information on activities and classes for their children in their local area". To date this had been achieved in Galway, Limerick, Wexford, Dublin City and County in a very short time, with further new areas coming soon.

Jill Holtz one of the founders recognises that to be the best you must constantly improve your service offering

and keep abreast of the latest technological advances so the website will continue to be a most informative, enjoyable, user friendly experience for the customer – this concept lead to some research collaboration with NUI Galway.

Through John McGuire, a Commercialisation Executive in the Technology Transfer Office in NUI Galway, mykidstime was able to engage in some R&D collaboration with DERI which resulted in the licensing of a new novel technology know as ATOM to the company. TTO have patented the ATOM technology and are actively licensing it to a number of companies. This technology has enabled the "look and book" service provided by mykidstime.ie to be greatly enhanced. Inventors are reaping the rewards from the licensing revenue as per University IP Policy.



Pictured at the signing of the licence agreement between NUI Galway and Mykidstime.ie are (l-r) John McGuire of TTO, NUI Galway, Jill Holtz from Mykidstime.ie, Krystian Samp from DERI and Fiona Neary from TTO, NUI Galway.

Are you thinking of bringing a technology to the market in the near future?

If so, check out the NUI Galway commercial programmes available September 2009

Start Up Solution (SUS) – Cycle I
If you have a new idea and are thinking about setting up a business or if you have the newest, hot technology to launch onto the market then SUS Cycle I will enable You to determine the market value of this opportunity.

Campus Commercialisation Programme (CCP)
If you are considering commercialising a new technology in the near future – then CCP will allow you to test the commercial waters and plug and play in a safe commercial environment.

Contact: Clodagh Barry, CCP/ SUS Forum Manager to discuss your opportunity and our programme requirements.
Tel: 091 495382 Email: clodagh.barry@nuigalway.ie

Microsoft BizSpark supporting you in fast tracking your start up from an IT perspective

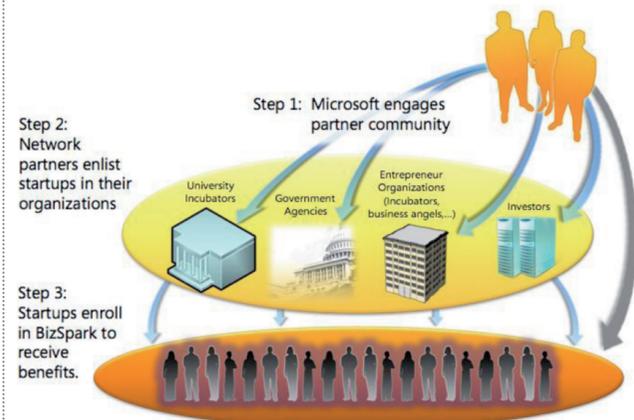
NUI Galway has just signed on as a Network Partner in the exciting new Microsoft BizSpark programme which is designed to accelerate the success of early stage startups, in their IT requirements.

Through BizSpark we can now offer you fast easy access to current Microsoft development tools and platform technologies to help you bring your innovative solutions to market. The programme can also provide you and your clients with global visibility to potential customers, investors and partners.

The Technology Transfer Office is specifically focused on supporting entrepreneurs and start-ups, and our activities include a focus on promoting and supporting startups, through programmes, mentoring, networking, business advice, financial and legal assistance, or similar services. In this case "we as Network Partners are active members of the local software ecosystem engaged with high-potential, early stage start-ups" John McGuire, Commercialisation Executive, TTO NUI Galway.

So go ahead and join – it only takes a few minutes and no upfront costs (only cost USD\$ 100 at the end of 3 years). To sign up to this programme you need to be sponsored by a network partner and NUI Galway being one will be happy to help

you accelerate your business successfully with IT support from Microsoft. For more information on how to become part of this exciting programme please log onto: www.microsoft.com/ireland/bizspark/



NUI Galway TTO support DERI entry into Irish Technology Leadership Group competition

Through John McGuire a Commercialisation Executive in the Technology Transfer Office, NUI Galway and Digital Enterprise Research Institute (DERI) have entered into the competition to be considered for selection to present MAARS, an NUI Galway Technology, to investment opportunities such as a delegation of US VC's, entrepreneurs and CEOs at the ITLG which are "closed door" workshop sessions – MAARS lead Inventor is Laurentiu Vasiliu.

MAARS provides Brokers in Finance corporations who need select the best funds available at the time of asking that meet the requirements of a set of parameters that define fund

capabilities. The benefits to the Finance Corporation are:

- The ability to analyze a larger number of funds in a shorter space of time bringing benefits of increased productivity for the brokers and greater opportunity for success and enhanced reputation for the finance corporation.
- The ability of maintaining reasonable growth expectations within funds participants, thus avoiding inflated trend expectations and behaviors
- Increased accuracy by capturing the company's investment needs in software – thereby minimizing risk and maximizing opportunity as opposed to 'One Broker Decision Only'.

- The ability to provide a decision support tool that will lead to an improvement in decision accuracy and reliability bringing the benefits of lower risk to the finance corporation
- All provided in a high security 1024-bit encrypted data environment.

The chosen start ups will present their commercial offering at Belfast City Hall, Ireland on Tuesday, October 20 – Thursday, Oct 22, 2009. The best commercialization opportunities on the day will be selected to go to Silicon Valley and engage with ITLG to help further their business.

For further information see: http://www.itlg.org/ITLG_Events.php