



Shannon ABC
applied biotechnology centre

Shannon ABC

Supporting Sustainable Organic Production

National Organic Food Conference
Limerick Institute of Technology,
Limerick
June 14th, 2011



INSTITUTE OF TECHNOLOGY TRALEE
INSTITIÚID TEICNEOLAÍOCHTA TRÁ LÍ



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www.shannonabc.com

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What is Shannon ABC



- 1 of 15 National Applied Research Enhancement (ARE) Centres
- ARE = Competitive Enterprise Ireland Program for Institutes of Technology
- Specialise in Applied Research and Support to Regional and National Industry

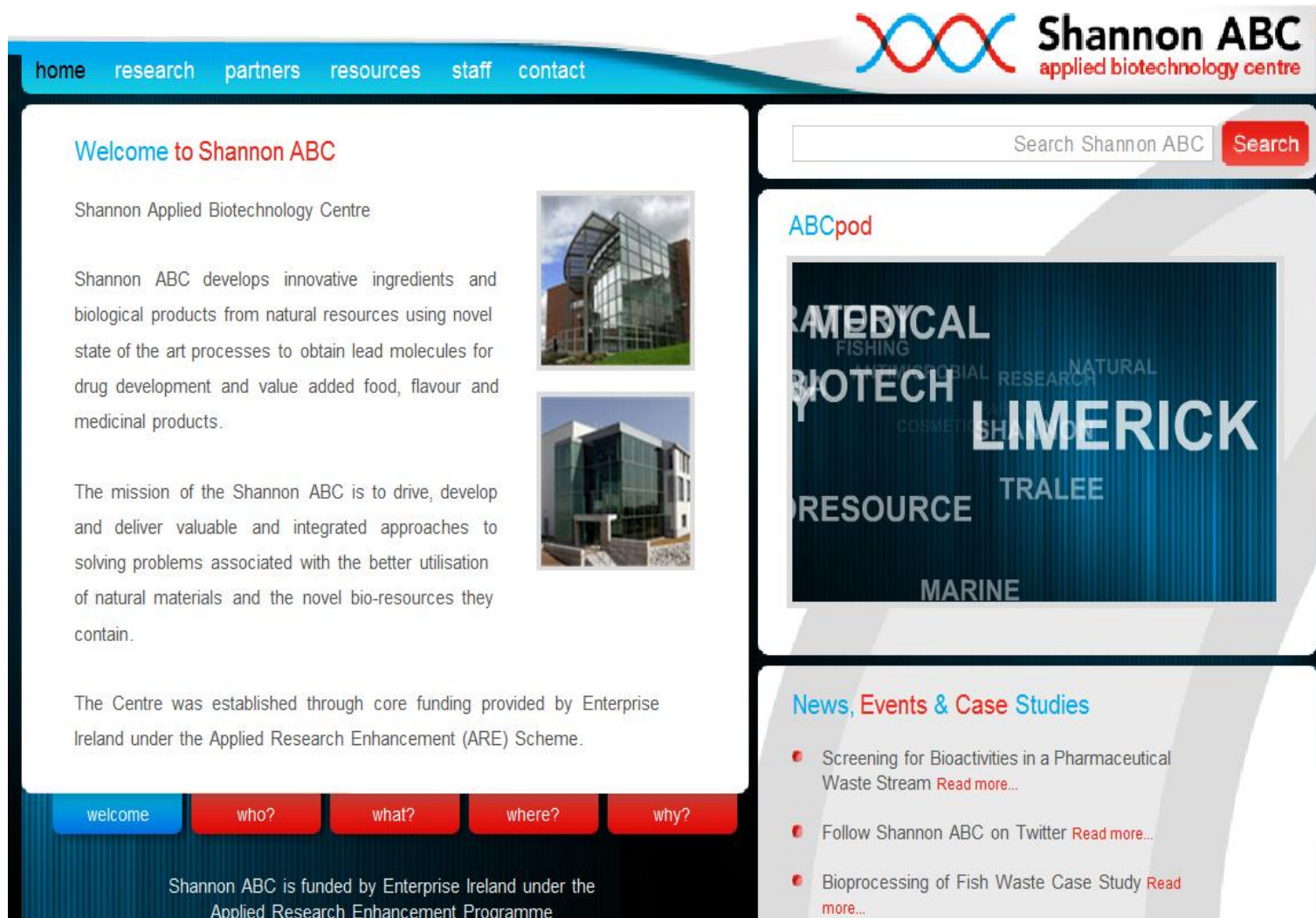
Shannon ABC Unique amongst the AREs

Centre based between 2 IOTs (Limerick & Tralee)

Received 3 Year Funding (5 Year Norm)

Centre successes' have permitted continued funding – 'ARE+'

More information - see



The screenshot shows the Shannon ABC website with a blue header containing navigation links: home, research, partners, resources, staff, and contact. The main content area is divided into two columns. The left column features a 'Welcome to Shannon ABC' section with a description of the center's work, two photographs of the building, and a mission statement. The right column includes a search bar, an 'ABCpod' section with a word cloud, and a 'News, Events & Case Studies' section with three articles. A footer at the bottom of the page provides funding information and navigation buttons.

home research partners resources staff contact

Welcome to Shannon ABC

Shannon Applied Biotechnology Centre


Shannon ABC develops innovative ingredients and biological products from natural resources using novel state of the art processes to obtain lead molecules for drug development and value added food, flavour and medicinal products.

The mission of the Shannon ABC is to drive, develop and deliver valuable and integrated approaches to solving problems associated with the better utilisation of natural materials and the novel bio-resources they contain.

The Centre was established through core funding provided by Enterprise Ireland under the Applied Research Enhancement (ARE) Scheme.

welcome who? what? where? why?

Shannon ABC is funded by Enterprise Ireland under the Applied Research Enhancement Programme

 **Shannon ABC**
applied biotechnology centre

Search Shannon ABC **Search**


ABCpod

LIMERICK


News, Events & Case Studies

- Screening for Bioactivities in a Pharmaceutical Waste Stream [Read more...](#)
- Follow Shannon ABC on Twitter [Read more...](#)
- Bioprocessing of Fish Waste Case Study [Read more...](#)


More information - see



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Welcome from the President of LIT

Limerick Institute of Technology and
Tipperary Institute to form one organisation

Graduate Studies and Research Office (GRO) Bursaries

LNSS in collaboration with CSG Information Literacy Group
will host the LILAC conference 29th-31st March 2010



Engineering Topic for Leaving Cert 2010 -
Accelerometer (pdf)

European Analytical Measurement Competition
2010



Smart Start Plus - college preparation programme
exclusive to those who qualify for EGF support (pdf)

BlueBrick.ie - a website allowing learners to search
for, compare & apply online for a range of
programmes & modules available on a flexible
basis within the Institutes of Technology.


Quick Links

Google™ Custom Search


- » PROGRAMME HANDBOOK 2010/1
- » LATEST NEWS
- » HOW TO FIND US
- » DEVELOPMENT OFFICE
- » LIT TENDERS
- » VACANCIES @ LIT
- » GREEN @ LIT
- » NEW PROGRAMMES
- » ADMISSIONS
- » LIFELONG LEARNING
- » STAFF DIRECTORY
- » STAFF EMAIL / STUDENT EMAIL
- » ACADEMIC CALENDAR 09/10
- » CAREERS SERVICE
- » MILLENNIUM THEATRE
- » LIT ALUMNI ASSOCIATION
- » TÚS NUA » BRE IRELAND


**SCHOOL OF
ART & DESIGN**




**SCHOOL OF THE
BUILT ENVIRONMENT**



**SCHOOL OF BUSINESS
& HUMANITIES**



**SCHOOL OF SCIENCE,
ENGINEERING & I.T.**



What the papers say...

2010-02-18 Limerick Post

LEAP in 2010 to turn your business vision into reality

Limerick Institute of Technology have launched their annual recruitment drive for the LEAP programme,

More information - see

Information For

[Current Students](#)
[Future Students](#)
[Graduates](#)
[International](#)
[Staff](#)
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Information About

[Institute and Departments](#)
[Research](#)
[Entrepreneurship](#)
[News and Events](#)
[Courses](#)

COURSE SEARCH



County Kerry

European Entrepreneurial Region of the Year 2011

Ceremony hosted by the EU Committee of the Regions (CoR) in Brussels

News

Feb 24, 2010

Neven Maguire visits
ITT and Shares Secert
to Success



Feb 17, 2010

County Kerry Wins
European
Entrepreneurial
Region Award



Feb 17, 2010

UNESCO + European
Inclusive Physical
Education Training



Feb 17, 2010

PARENTING OUR
CHILDREN - ART AND
SCIENCE 2010



At the Institute of Technology Tralee, we offer our students a wide range of courses within a dynamic learning environment. With superb facilities and student services, our reputation for friendliness and academic achievement prepares you for an exciting third level education.

Fáilte romhat chuig Institiúid Teicneolaíochta Trá Lí. Tá rogha mhór cúrsaí ar fail duit mar mhicléinn lánaimseartha nó páirtaimseartha.

Mission is not ABC's but RD-Es

Research

Bio-prospect natural materials/waste streams for high value commercial bioactives

Develop

Develop novel, environmentally friendly processes with commercial potential to produce high value molecules and products from natural materials and waste streams

In Co-operation with EU, EI and other State Agencies offer collaborative support to regional industry so as to achieve their commercial goals

Educate

Transfer knowledge: Academia <> Industry <> Academia

Exploit

Commercialise research or assist industry to commercialise theirs

↑ Competiveness - ↑ Products - ↑ Exports - ↑ Jobs

Core - Bio-Discovery Overview



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applied biotechnology centre

Targeted Waste Streams

Fish Waste (>200,000 T/Y)
Horse Chestnuts (~1,000 T/Y)
Spent Yeast (>200,000 T/Y)



Extraction & Fermentation



Bioactive Screening

Anti-oxidants - Anti-microbials - Immunomodulatory



Market Analysis
What Companies Need
Now



Enrichment > Purification > Characterisation



New, Better or Added Value Products €, £, \$

Selected Additional Industrial Research



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Micro-organisms

- Sustainable production of biologically active molecules of marine based origin (**BAMMBO – FP7**)
- Anti-microbial agents and novel enzymes from **marine fish gut microbes**.
- Micro-organisms Based **Seaweed** Degrading Processes
- Comparison of Different Micro-Organisms for Galacto-oligosaccharides (GOS) Synthesis
- Enhanced Production of a Biotechnology Product Used in Food Production
- Enhanced Production of **Heparin**
- Lipase Activity during Bio-Degradation of Industrial Seaweed Residue.
- Industrial thermophilic enzyme production

Now expanded
research to work
with
**Microorganism,
Plant and Animal
resources**

Plants

- CELLS Collaboration: Mining of Bioactives from Plants Propagated in a Environmental Growth Chambers.
- Characterisation of Plant-Derived Components with **Reported Medicinal Properties**
- Fractionation of Bioactive Molecules from **Apple Pomace**
- Pre-Commercialisation Evaluation of Algal-derived Pre-biotic Oligosaccharides using Phenotype Microarray
- Bioactivity Screening **Horse Chestnut** Extract and Seaweed.
- Seaweed **Peptides** for **Cosmetic** Applications.
- Hydrophobic Modification of **Alginates**.
- Anti-Rejection Shielding for the Transplanted Bio-Artificial Pancreas.
- Bioactivity assessment of peat based **cosmetics**
- Use of Environmental Growth Chambers to enhance nutraceutical yielded in plants

For bioactives & processes
of value to
**Food, Pharmaceutical &
Cosmetic
Industries**

Animal

- Development of Phenotype Micro-Array Technology
- Characterization and Purification of Immuno-Stimulatory Proteins in **Salvaged Blood**
- Characterisation of the Bio-activity of **Squid Ink**.
- A Macrophage Cell Model as an Immunomodulatory Screening Platform
- High Throughput Assay for Evaluation of Pro-Biotic Activity.
- Bioactivity assessment of commercial and organic milks

www.shannonabc.com



2007 to Present

Project Start 2007

1 Director and **2** Strand leaders (**3** People)
Engaged with **~3** Companies

Core Research Work

Completed and now in ARE+ Phase

- Discovered potent antioxidants leads in food waste streams
- Discovered immuno-modulatory leads in food waste streams
- Discovered natural anti-microbial leads from fish waste streams
- Now in Commercialisation and Proof of Concepts Stage

ARE+ Contract

Due to end December 2011

Today



- 40+** People involved in Centre
- 30+** Applied Post-Graduate Projects (Beyond Core)
- 25+** Industrial Projects (Beyond Core)
- 40+** Industrial Partners, collaborators and Supporters (Beyond Core)
- 20+** Academic and State Collaborators (Beyond Core)

2 EC FP7 Approved Projects => First Time Applicants (Marie Curie + KBBE)
Being Co-ordinated out of Shannon ABC/LIT across EU and ICPC

See: www.bammbo.eu

Sustainable Production of Biologically Active Molecules of Marine Based Origin



Shannon ABC
Applied Biotechnology Centre

ISSUE 1 • November 2009

BIOTECH FOR BUSINESS

Tralee and Limerick IoTs join forces with Shannon Applied Biotechnology Centre

Shannon ABC is a joint venture between the Limerick and Tralee Institutes of Technology. The Centre was established through core funding provided by Enterprise Ireland under the Applied Research Enhancement (ARE) Scheme. The Centre is founded on twenty years of applied research on food and natural products. Shannon ABC's expanding research programme explores natural products for novel bioactives of value to the Healthcare, Forensic, Pharmaceutical, Food, Cosmetics, Agricultural, Environmental and Bio-Energy Industry.

Shannon ABC's research is applied in nature and industry relevant. Research is focussed on providing the right solution from scientific, industrial operations and economic viewpoints. Shannon ABC welcomes collaboration with industry, academia, and research centres based nationally and internationally. Start-ups to large multi-nationals have benefited from collaborative projects to date.



Dr. Daniel Walsh examines freeze-dried extract of spent yeast.

A key objective of Shannon ABC is to assist in developing the knowledge based economy through provision of expertise, state of the art equipment and facilities and access to a wide variety of national and international funding programs. The benefits may be in the competitive development of existing companies or the creation of new companies within the region.



UPCOMING EVENTS

SHANNON ABC INDUSTRY OPEN DAY

November 12th 2009 at 4.15pm

Limerick Institute of Technology

SPEAKER: Dr. John Dardis

'Researching our way out of Recession'

National Contact Point, Food, Agriculture, Fisheries and Biotechnology. The Seventh EU Framework Programme for Research and Technology Development (2007-2013)
Department of Agriculture, Fisheries and Food

NAVIGATING THE ROADMAP OF FLOW CYTOMETRY, PAST PATHS AND FUTURE DIRECTIONS

Thursday 19th of November at 12.00pm

Solás Building, IT Tralee, North Campus.

SPEAKER: John F. Daley, Harvard University

Director of Flow Cytometry, Hematologic Neoplasia Flow Cytometry Facility, Dana-Farber Cancer Institute.



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Minister Endorses Research Support for Irish Industry

Billy Kelleher, TD, Minister for Trade and Commerce, endorsed support for industrial research at an Enterprise Ireland's Showcase event on 30th September in Cork.

On display was Shannon ABC amongst sixteen other centres based at Ireland's Institutes of Technology (IoT) whose expertise ranged from nano-technology to detect blood sugar levels, through antiseptic paint to prevent MRSA infection in hospitals, to embedded systems to assist elderly citizens to live independently for longer.

Until recently research potential at Ireland's IoTs had been overlooked, but establishing Applied Research Enhancement Centres (ARE), by Enterprise Ireland allowed their talent to become accessed by Irish industry.

Shannon ABC is one of fourteen ARE IoT-based centres strategically placed throughout Ireland



Billy Kelleher, TD, Minister for Trade and Commerce with Dr. Benjamin Bradley, Shannon ABC

where they play a vital role in helping local industry recover from recession.

Ironically, in times like these, when companies most need investment in research and development, they cannot raise capital to

purchase equipment and expertise in order to develop new products or processes. Shannon ABC and other ARE were established to fulfill this need by offering their expertise and state-of-the-art resources to companies keen to develop and improve their competitive edge.

Press Release & Project Launch



Irish Organic Milk Producers
Meeting 25th June, 2009



Shannon Applied Biotechnology Centre & Irish Organic Milk Producers

Research Launch
April 15th, 2010



Daniel Walsh
Strand Leader Shannon ABC Limerick



Irish Organic Milk Producers collaborate with Limerick Institute of Technology's research centre Shannon Applied Biotechnology Centre

Irish Organic Milk Producers and the Limerick Institute of Technology's research centre Shannon Applied Biotechnology Centre are collaborating on an Enterprise Ireland funded Innovation Voucher project entitled 'A preliminary Evaluation of the Bioactivity of Irish Organic Milk'. On April 15th Limerick Institute of Technology hosted a launch event to publicise the research collaboration initiative and inform the wider organic community: food and milk producers, farmers, these manufacturers, beverage producers and business and skills support representatives from across the region. Lead LIT lecturer and Shannon ABC strand leader Daniel Walsh, the project will examine difference between conventional milk and organic milk in relation to health components and bio-actives.

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Press Release

Former Minister of State for Food and Horticulture Mr. Trevor Sargent TD, who attended the event, commented on the benefits of 'the coming together of industry and research'.

Shannon ABC laboratories are customised for wide-ranging biotechnological, analytical and processing capabilities. Shannon ABC offers regional businesses R&D support through contract research, collaborative research, link/network enhancement, Technology 'AUDIT', Technology 'WATCH' and forthcoming Sensory/Organoleptic Evaluation. Research is supported by national funding programs and Shannon ABC encourages companies to contact them for further information.

For further information on this project please contact Tracey Larkin at tracey.larkin@lit.ie.



INVITATION

You are cordially invited to attend

the
Irish Organic Milk Producers

&

Shannon Applied Biotechnology Centre Research

Launch Presentation

2:00 to 4:00 pm

on

April 15th, 2010

in

The Limerick Institute of Technology,

Room 3A02,

Mayfield Park,

Limerick



Shannon ABC
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Organic Irish milk 'higher levels of antioxidants' than British equivalent

by Joe Dermody

Conventional milk. Organic milk also has more beneficial fatty acids, it said. Consumption of organic food in Britain has slumped in the past two years, largely due to the downturn. The Newsweek study, published in the Journal of Dairy Science, sampled 22 brands, 10 of them organic, between 2006 and 2008. The British study stated: "Switching to organic milk and dairy products provided a natural way to increase our intake of nutritionally desirable fatty acids, vitamins and antioxidants without increasing our intake of less desirable fatty acids. By choosing organic milk you can not saturated fat by 30%-60%."

The organic milk for the study was provided by the Irish Organic Milk Producers (IOMP), led by chairman Pat Mulrooney, a Cornell-based organic milk farmer, and John Larkin, Green, Co. Limerick. The SABC research was led by Dr Daniel Walsh, supported by Dr Eavan Bealainn and Dr Shane O'Connell. The study tested antioxidants, antimicrobial and immune-modulatory activity in the milk. "The studies are looking at Irish organic milk and comparing it to imported milk produced over a 12-week period. "The research has shown promising results in terms of increased levels of antioxidant in the Irish milk, which is beneficial for your health," said Dr Larkin. Last week, a study published by Newcastle University in England stated that organic milk contains 30%-50% less harmful saturated fats than conventional milk. Dr Larkin will be among the speakers at the (IOFGA) conference this Sunday in the Tollamore Court Hotel, Co. Offaly.



Pat Mulrooney: "The good thing about university research is that it is completely independent of industry."



Master's Research Degree Programme Opportunity at LIT. 'Analysis of Key Growth Areas for Irish Organic Dairy Products for The Little Milk Company'.

Research Area The Department of Business and Department of Applied Science at Limerick Institute of Technology (LIT) in conjunction with The Little Milk Company have secured funding for a Masters Research Degree Programme available for an LIT Business Marketing degree graduate. The project titled 'Key Growth Areas for Irish Organic Dairy Products' will investigate the potential of new markets and products for The Little Milk Company. This project has been awarded LIT Graduate Research Office funding.

Main Research Field: This programme of research is concerned with business and marketing techniques to research and identify:

- new organic dairy markets (France, Germany, Holland etc)
- key organic products e current 'Organic' market leader in each country
- export possibilities for Irish organic dairy products
- new product identification.

Profile of the Candidate

The desired candidate should have:

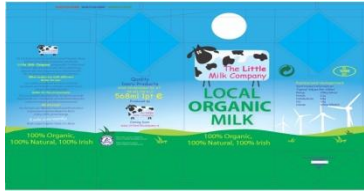
- A primary honours degree in Business, Marketing or similar field
- An interest in pursuing postgraduate studies to Masters level in an area related to business and marketing
- Good computer skills
- Practical 'hands on' approach to business and marketing
- Excellent communication and interpersonal skills
- An interest in investigating the commercial potential of the above research.



Ireland's EU Structural Funds
Programmes 2007 - 2013
Co-funded by the Irish Government
and the European Union



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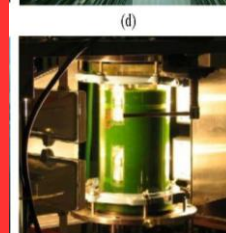
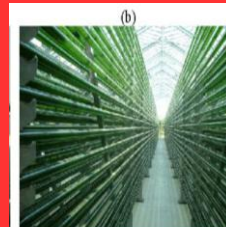
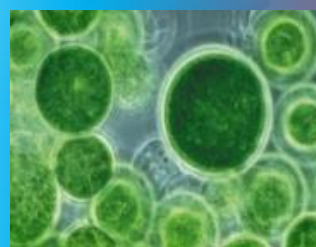


Shannon ABC Industry Support

Size Doesn't Matter



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Space
Culturing/Growth
Extraction
Fractionation
High Throughput Screening
Analysis Absorbance, Fluorescence & Luminescence Microtitre Plate Readers Flame & Graphite Furnace AA FT-IR Kjeldahl BioChip Array Real Time PCR Metrohm pH Stat GC-MS LC-MS-MS



Basic Shannon ABC Question:

How can we help/support this company???

1. Listen to what they have to say!
2. Ask them what they need?
3. Provide opportunity for Research support, i.e., Shannon ABC + other Universities + Colleges + Res. Centres
4. Provide access to national Funding Programmes
5. Provide access to experienced personnel
6. Provide access to facilities – both Research & Admin



- Engage in joint industrial collaborative projects/contract research
 - Enterprise Ireland – Innovation vouchers, Innovation Partnerships
 - IRCSET
 - EPA
 - FIRM
 - GRO – Limerick Institute of Technology
 - EU – FP7, Knowledge Based Bio Economy's, Research for Benefit of SMEs, Marie Curie
- Provide expertise and facilities to support commercial research
- Evaluate the added value bioactivity of naturally occurring bio-resources
- Provide expertise in bio-resource processing, analysis and identification
- Enhance current or assist with new technology process development
- Offer 'Technology Watch' and 'Technology Audit' support to industry

Expertise from Core Research => Applied to Meet Industry Needs:

1. Optimise culturing of bacteria, fungi & algae (Psychro, Meso & Thermo) for food and non-food use.
2. Bioprospect natural materials & waste streams from industrial sectors for bioactives:
 - ✓ Essential fatty acids
 - ✓ Pigments/Colours
 - ✓ Proteins/Peptides/Carbohydrates
 - ✓ Anti-oxidants
 - ✓ Anti-microbials

=> For use in Cosmetic, Food & Pharmaceutical Products

3. Generate enzymatic protein/carbohydrate bioactive hydrolysates from natural materials for use in food/pharma products.
-
4. Evaluate a company's processing capabilities and develop processes to enhance yield or convert a process to a more environmental friendly + Greener one.

5. Offer '**Technology Watch**' support as part of standard research engagement. Keeps our focus on a company's needs & enhances commercial support to greater industry.
6. Apply our Technological Capabilities to other non-traditional applications, e.g.,

Environmental Growth Chambers (30m²) allow recreation of nearly any environment, i.e., Light intensity, Light duration, Light wavelength, Temperature, CO₂ & Humidity.

- Can be used to Enhance the nutritional/bio-active properties of plant materials non-genetically (Non-GMO).
- Can be used to enhance the biomass and product yield of algae.
- Can be used to perform shelf life studies (colour, bioactivity & microbial safety etc.) on products in storage, transport or awaiting sale.

How?

7. Process industry waste stream/by-produce directly or after bio-active extraction & perform fungal fermentation to liberate simple sugars (Feed).
8. Investigate the potential to process industry's environmentally challenging waste streams and explore potential to reduce environmental impact through microbial remediation/bio-conversion.
9. Link companies in a mutually beneficial manner:
Company A produces waste stream \leq **Company B** needs bio-actives within

Our Overall Message

Our research activities are of increasing commercial relevance to industry and will allow differentiation of your company's products & activities from the competition through a process of enhancement, optimisation, waste exploration, bioconversion and being informed.

Come and Talk to Us!



Fund/Company	Title
Enterprise Ireland - Innovation Voucher (€5k): Shannon ABC – Irish Organic Milk Producers	Assessment of the bioactive properties of Irish organic milk as compared to imported organic milk and commercial non-organic Irish milk
Enterprise Ireland – Innovation Voucher (€5k): Shannon ABC – Inagh Farmhouse Cheese Ltd.	Optimisation of an organic aeration and agitation process for treatment of goat cheese whey and slurry wastes.
Enterprise Ireland – Innovation Voucher (5k): Shannon ABC – Irish SeaSpray Ltd	Organic extraction of omega-3 fatty acids from salmon skin as a way to add value to salmon processing waste.
Enterprise Ireland – Innovation Partnership (Excess €5k): Shannon ABC – Algal Health Ltd	Environmentally sustainable organic processes for the enclosed production of omega-3 polyunsaturated fatty acids (PUFA's) and carotenoids (astaxanthin) from microalgae.
EC Framework 7 Programme – Cooperation Theme 2 – KBBE -(11 International Partners – 9 RTD – 2 SME) (€4.2m):Coordinator: LIT	Sustainable production of biologically active molecules of marine based origin (BAMMBO).



Case Study Inagh Farmhouse Cheese



Shannon ABC
applied biotechnology centre

Company Profile:

Award winning producer and exporter of organic goat cheeses. 5+ full time employees with turnover of €400k



Challenge:

Company produces 500,000L/annum of goat slurry and whey waste. N rich waste with high BOD.



Progression: Enterprise Ireland Innovation Voucher

Optimise aeration/agitation process to produce a low cost organic fertiliser suitable for land spreading.



Outcome: Completed

1. Company maintained organic practices applicable to brand.

Company Testimonial: *'We are delighted we did this project...'* –

'...maximise use of aeration system..'

'..strong position to robustly defend our waste management..'

IOTI – Case Study National Release



Shannon ABC
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CLIENT:
Inagh Farmhouse
Cheese Ltd.

CATEGORY:
Contract Research, Consultancy
and Feasibility Studies

**Innovative Research
Solutions with Industry**

Renewable, Sustainable
and Environmental
Technologies Research

Whey and Sewage Processing on an Organic Cheese Farm



For over 20 years **Inagh Farmhouse Cheese Ltd.** has been producing organic goat's cheese in Inagh, Co. Clare. The company has invested in state-of-the-art cheese rooms that conform to EU regulations. The company's leading cheese products are St. Tola and Crottin cheeses which are marketed in Ireland and the UK. In 2001, St. Tola became a registered organic producer with the Irish Organic Farmers and Growers Association.

The Waste Management Act of 1996 addresses the disposal of farm waste including animal slurry and by-products of the food production process. Bio-processing can be used to convert waste material into hygienic, relatively stable products that have the added-value that they can be used as fertilisers. There are currently many different systems available for use in bio-processing of farm waste, including composting, anaerobic treatments and aerobic systems.

Cheese whey is a liquid waste product of the cheese making process. It has the potential to cause serious environmental pollution if not properly treated before disposal. To properly manage the organic waste from the goat farm and the cheese-making process, Inagh Farmhouse Cheese Ltd. wished to convert it into a form that is permissible for disposal by land-spreading. The company invested in an Aerobic and Agitation System for the bio-conversion of the combined whey and animal slurry waste. It was important to assess the efficiency of the bio-processing of this waste in order for the company to maintain its organic status.



Inagh Farmhouse Cheese Ltd. engaged with the **Shannon Applied Biotechnology Centre (Shannon ABC)** through the Enterprise Ireland Innovation Voucher scheme. The purpose was to confirm the efficiency of the bio-conversion of waste by the Aerobic and Agitation System. Shannon ABC is a collaboration between the **Limerick Institute of Technology** and the **Institute of Technology, Tralee**. It is an applied research centre that combines research strengths in, among others, natural product utilisation and bio-processing. ➔

Inagh Farmhouse Cheese Ltd. | www.st-tola.ie

Inagh,
Ennis, Co. Clare

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Inagh Farmhouse Cheese Ltd. Whey and Sewage Processing on an Organic Cheese Farm

➔ Shannon ABC conducted a monitoring and processing protocol over a five day period. This entailed optimisation of the system operation, sampling of waste streams, interpretation of analytical results and generation of a report outlining the outcomes of the research supported by legislative requirements. As a result of this work, the company have an optimised energy efficient process for waste stream processing with acceptable organic classification and

a product with the potential to be exploited as an organic fertiliser. This has given the company the confidence that they have made the correct investment in a waste processing system which can be operated efficiently and appropriately. Successful operation of the system means that the company is effectively managing its waste and continues to operate within the organic guidelines. ■

TESTIMONIALS

Mr. John Harrington

*Inagh farmhouse
Cheese Ltd.*

"We are delighted we did this project and fortunately it confirms that our investment was a valid investment. I believe we are well positioned to maximise the use of the aeration system and the tank, and we are also in a strong position to robustly defend our waste management system which may become of vital importance in all farming activities in the very near future."

Dr. Daniel J. Walsh

*Shannon Applied
Biotechnology Centre,
Limerick Institute of
Technology*

"This was a very interesting project for us as it directly related to supporting a company in the better utilisation of their waste. Following on from this project we have now started looking into future projects on the applications of other waste streams from this organic goat cheese producing farm business."



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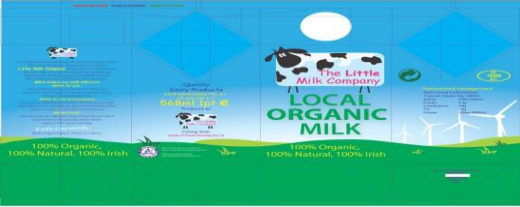
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Case Study Irish Organic Milk Producers



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Company Profile:

Organic milk producing company comprising 14 farmers and increasing across Ireland. Est. 2008. Produces 4m Litres organic milk/annum.



Challenge:

Company wishes to expand into organic milk & product arena
Need scientifically validated claims w.r.t. bioactivity of **Irish Organic Milk** as compared to conventional retail milk and imported organic milk.

Progression: Enterprise Ireland Innovation Voucher

Evaluate anti-microbial, anti-oxidant and immuno-modulatory properties of Irish Organic Milk, Conventional Milk and Imported Organic Milk.

Outcome: Completed

1. Notable findings discovered have progressed into new International research collaborations.
2. Research launch and publicity



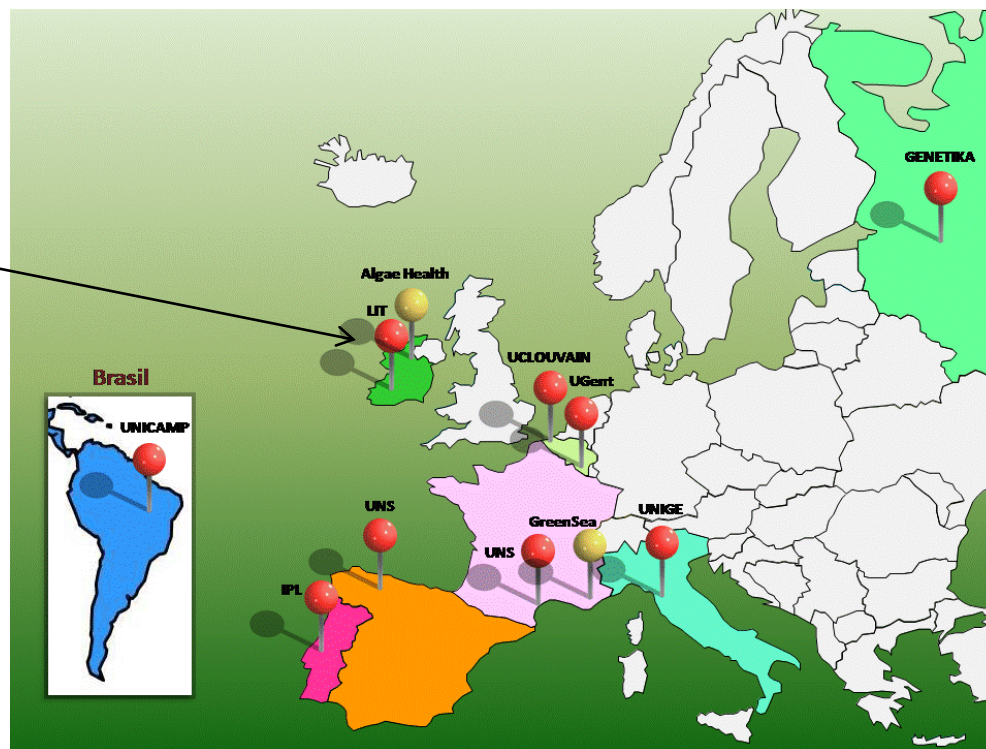
Shannon ABC - Framework 7 Europe

Theme 2- Co-Operation Programme FP7 KBBE-2010-4

‘Sustainable Production of Biologically Active Molecules of Marine Based Origin’
(BAMMBO)

Project extensively incorporates novel state of the art practices for sustainable organic culturing and production of high value biomolecules.

**Shannon ABC
Co-ordinating**



11 Partners

9 Countries

2 SMEs



Thank you

