Marie Curie Individual Fellow

PROFILE FORM

Date: 3rd June 2009

INFORMATION OF ORGANIZATION	
Name of organization	**Shannon Applied Biotechnology Centre**
Contact details of the main researcher	Name, Title: Professor Benjamin Bradley Tel.: 00353879607040 Gender (M/F): Male E-mail: Benjamin.bradley@staff.ittralee.ie Web: http://www.shannonabc.com/contact.php
Key group researchers and expertise (name, surname, academic degree)	Benjamin Bradley MBChB MSc(Immunology) PhD FRCPath MA(Cantab) FRCP Daniel Walsh BSc PhD MIFST Shane O'Connell PhD PgDip MAMLS Agnieszka Kowalska PhD Jonathan O'Driscoll PhD Thippeswamy Sannaveerappa PhD Helena McMahon PhD Joanna Tierney PhD Patrick Murray PhD
Organization type (tick all that apply)	☒ Public ☐ Private ☐ Non-profit ☒ Research ☒ Education ☐ Industry ☐ SME ☐ Other _____
Organization Size (employees)	☐ < 10 ☒ 10-49 ☐ 50-99 ☐ 100-199 ☐ 200-249 ☐ >249
Short description of organization	• Shannon Applied Biotechnology Centre's mission is to drive, develop and deliver integrated approaches for better utilisation of natural materials. It combines strengths in natural product discovery, bioactive-screening, nutraceuticals, fermentation and bio-processing. • Shannon ABC *(www.shannonabc.com)*, is an Applied Research Enhancement Centre (ARE), funded by Enterprise Ireland as a joint venture based at two Institutes of Technology in Limerick (LIT) and Tralee (ITT), which by European criteria are Technical Universities. • As a joint venture Shannon ABC is protected by a Memorandum of Understanding drawn up between LIT and ITT, thereby adding strength, breadth and stability. • Since 2005, biotechnology research at LIT and ITT in neutraceuticals and natural products, developed exponentially into innovation-focused industrial collaborative projects, students, staff, budget and equipment; and in 2008, when Shannon ABC started, research was considerably strengthened and broadened to include biologically active products of value to various industries. • Future growth will see researcher numbers grow from 25 to 40 by 2010 and 100 by 2014, reflecting demand for research places, and academic and industrial relevance of Shannon ABC. • Shannon ABC's strong portfolio of research is funded from various national agencies including: Enterprise Ireland, Higher Education Authority, Irish Research Council for Science Engineering and Technology, Technical Sector Research, Sustainable Energy Ireland, Department of Agriculture and Food, Udaras na Gaeltachte, and Environmental Protection Agency. • Shannon ABC is well placed to offer resources and skills for assay development

	and screening for bioactive molecules of potential commercial value to the pharmaceutical, food, agricultural, marine and cosmetics industries. • Currently a library of small molecules (biobank) derived from natural products including seaweed, fish-waste, apple pumice, spent yeast, hawthorn, horse chestnut extract, and salvaged blood are being extracted, purified and functionally screened for anti-oxidant, anti-inflammatory, anti-clotting, anti-microbial, enzyme, prebiotic and other activity. • Shannon ABC offers a range of extraction and fermentation facilities and automated functional screens, as well as expertise in basic biochemical characterisation of molecules of value. • Resources available consist of combined research laboratory space of 400 m^2 at LIT and 400 m^2 of space at ITT with dedicated microbial, tissue culture, extraction, biochemical and storage/banking suites. • State-of-the-art equipment housed in these suites can be categorised into processing (for various extractions, pilot scale fermentation, purification and enrichment), high-throughput automated screening (for metabolomics and bioactivity in cell and microbial culture) and analytical (characterisation, quantification and identification). Most are bench top versions of systems employed by industry and have potential for scaling up into fully robotic multi-functional systems. • Expertise available at or accessible to Shannon ABC: A multidisciplinary core team covers biotechnology, biochemistry, chemistry, medicine, molecular biology, microbiology, enzymology, marine biology, fish science and immunology. • The unique collaborative relationship between LIT and ITT has several advantages that include increased critical mass of scientists, wider diversity of resources and expertise on offer to both postgraduate trainees and to potential industrial partners. • Shannon ABC has collaborative projects with academic and commercial partners including: National University of Ireland Galway, University of Limerick, Cork Institute of Technology, Dublin City University, University of Sheffield, and Dana Farber Cancer Institute; and Dromkeen Food Ingredients, Kerry Food Ingredients, Carbury Group, Beamish & Crawford Brewery, Brandon Seaweed Products, Technopath Ltd. and Halo Medical.
Broad area in which the fellow's project should lie	Extraction, characterization, functional testing of bioactive substances derived from natural products.
Key expertise sought	• Biotechnology • Biochemistry • Microbiology • Molecular biology • Immunology • Cell culture
Duration	12 – 24 months; flexible depending on the project
Project to be submitted for 18-08-09 deadline	**Activity: PEOPLE:** Marie Curie International Incoming Fellowships **(IIF)** Intra-European Fellowships for Career Development **(IEF)**