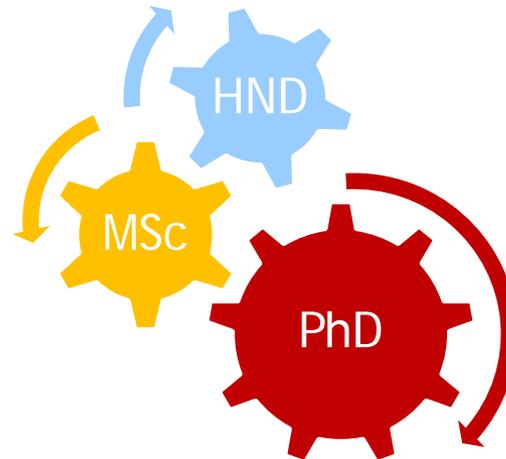
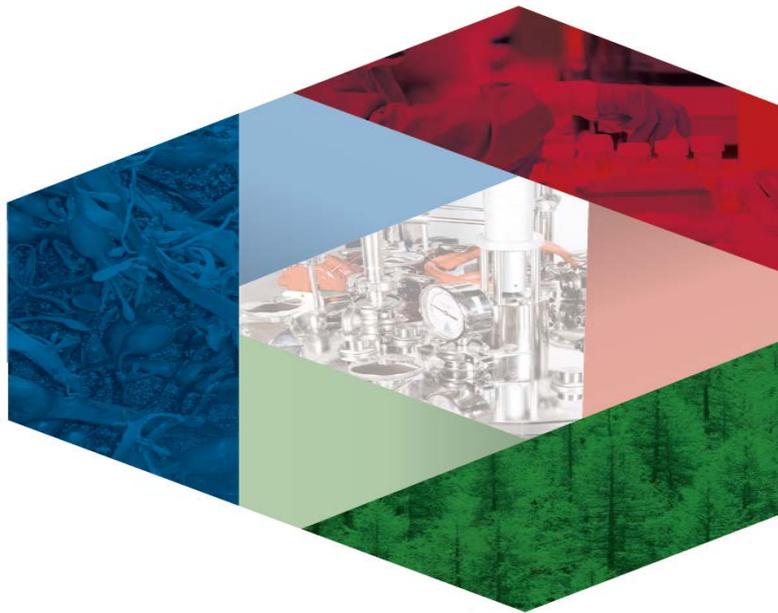


Industrial Biotechnology Innovation Centre



May 31st 2016



Dr Susanne Boyle
Skills Programme Manager, IBiolC



Skills for Research and Industry - From Over the Counter Medicines to Biofuels and Nutraceuticals

Research Skills
Professional Experience
Important of Networks
Lessons learned

Qualifications & CPD



- BSc (Hons) Biochemistry
- MSc Analytical Biochemistry
- PhD- Models of Chemical Leukaemia

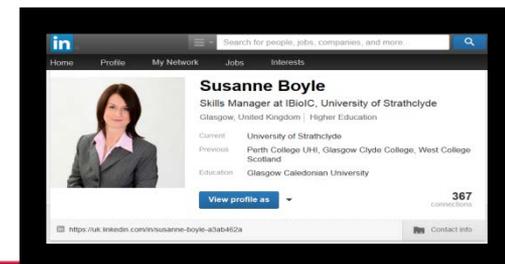
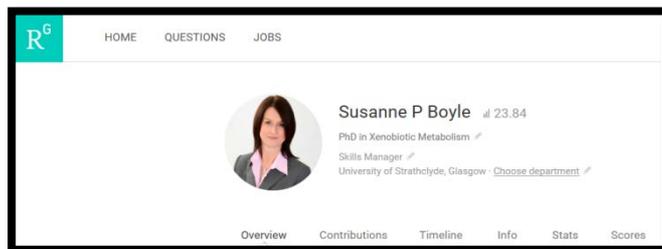
- **PgCert Tertiary Level Teaching
 - *Mandatory with contract of employment

- Professional Certificate in Management.

Importance of Professional Networks



- Mentor (academic/business)
- Optimise collaborative activity - research conferences/ symposia
- Have a plan & ideally a contingency
- Proactively engage in CPD
- Maintain your professional profile



Bioanalyst/
Study Co-ordinator
Huntingdon Life Sciences (ENVIGO)



Contract Research Organisation.

HPLC method development and validation within FDA compliant organisation

Data collation, interpretation and preparation of client reports.

Contribution to team activities e.g. checking of laboratory data



U.S. Food and Drug Administration
Protecting and Promoting *Your* Health

+++
ENVIGO

R&D Analyst

Mentholatum



Over the Counter Medicines

Chromatographic Method Development in GLP compliant labs

Spectroscopic Analysis

Design and execution of Stability Studies

Trouble shooting service to QC lab.

Sub-contracted specialist lab activities to third parties e.g. subcutaneous penetration studies



Principal Investigator



 **Rowett Institute
of Nutrition and Health**
Cutting-edge nutrition research since 1913

Directed research within a 3 year MAFF funded grant investigating the antioxidant capacity and health promoting effects of dietary antioxidants and nutraceuticals.

Managed 3 Research Assistants

Disseminated scientific findings via international conferences and peer reviewed publications.

R&D Analyst GSK



HPLC Method Development for New products,
Intermediates and Actives.

Development and Validation of Headspace GC Methods.

Contribution to NPI-A projects e.g. Glycine antagonist
development with Verona R&D site.



Lecturer/Senior Lecturer



Development and Evaluation of a Novel Interprofessional Learning Activity Addressing the Management of Phenylketonuria

Download as PDF (Size: 241KB) HTML PP. 189-193

DOI: 10.4236/2013.43028 1,760 Downloads 3,338 Views [Cite this](#)

Author(s) Leave a comment

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School of Pharmacy and Life Sciences, Faculty of Health and Social Care, Robert Gordon University, Aberdeen, UK
School of Pharmacy and Life Sciences, Faculty of Health and Social Care, Robert Gordon University, Aberdeen, UK

ABSTRACT

This new initiative across the School of Pharmacy and Life Sciences at Robert Gordon University focuses around students from the Overseas Pharmacists' Assessment Programme (OPAP) and 3rd year Nutrition and Dietetics students working in an interprofessional setting to manage the care of individuals with Phenylketonuria (PKU). A problem based learning approach was employed which involved small group, interprofessional working to solve a series of simulated case studies concerned with the management of phenylketonuria. The session was further

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2012, Vol. 3, Special Issue, 900-911
Published Online October 2012 in SciRes (<http://www.ScriRes.org/journal/so>)

Scientific Research
<http://dx.doi.org/10.4236/2012.32012>

Impact of a Practical Skills Assessment on the Individual Engagement of Undergraduate Pharmacy Students within Laboratory Coursework Sessions

Suzanne P. Boyle
School of Pharmacy and Life Sciences, Robert Gordon University, Aberdeen, Scotland
Email: s.boyle@rgu.ac.uk

Received September 4th, 2012; revised October 2nd, 2012; accepted October 19th, 2012

This study reports on the learner impact, practicality and cost effectiveness of an individual practical skills test designed to assess the interpretive and manipulative skills of undergraduate pharmacy in a laboratory setting. The reliability of the assessment tool across a 5 year period was examined and refinements introduced in response to constructive feedback from colleagues and learner feedback recorded via



View [Article] [Full Text] [References] [Citations] [Cross-References] [Supplemental]

A specific, accurate, and sensitive measure of total plasma malondialdehyde by HPLC-ESI

Handy F. Mouchy¹, Raymond C. Reed¹, Sarah Young², and Suzanne P. Boyle¹
¹Author Affiliations

ABSTRACT

Malondialdehyde (MDA) is one of the most commonly reported biomarkers of lipid peroxidation in blood samples. The measurement of MDA in plasma and MDA in urine is a gold standard biomarker for an MDA-TAG adduct in a common assay approach with products being identified by chromatography using an immunoassay. This method is sensitive (LOD) or immunoassayable by MDA. The specificity of the MDA assay was compared with both chromatographic and immunoassay methods. The levels of total plasma MDA were significantly lower than the plasma MDA in each of the samples examined, and moreover, the inter-individual variation appeared in the levels of plasma MDA was not evident in the plasma MDA assay. Each of the four color chromatographic detectors yielded a precise, sensitive, and accurate determination of total plasma MDA, and statistical analysis comparing the results across assays (LOD, n = 6). The assay data are presented and discussed along with specific assay purity levels of 95%.

Academic within School of Pharmacy and Life Sciences

Contributed to TLA on MPharm and MSc programmes

Developed MSc/PgDip for non EEA Pharmacists

Developed international research activity – oxidative stress, Antioxidants and clinical disease.

Led on international student enhancement initiatives including GSK placements.

Head of Learning, Teaching and Professional Skills, University of Manchester



- December 2013
- Change in direction- management role with team of 16 staff.
- Focus Educational technologies both HE and FE.
- Amazing opportunity to work across educational sectors, developed range of professional links which have been critical in present post.
- Learned new skills from application of AR to enhance educational resources, managing agile teams through to smarter use of Social Media.

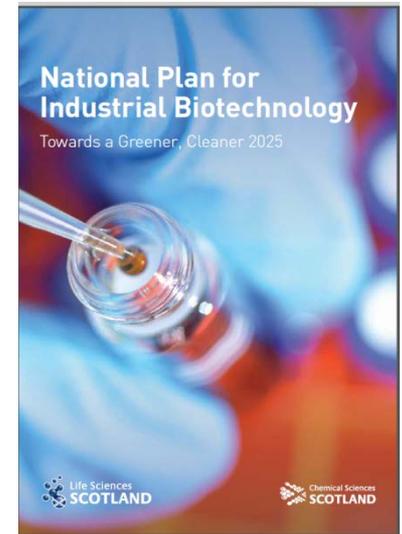


Skills Manager IBiolC

November 2015

Remit for IBiolC Skills Portfolio

- All educational programmes developed/delivered by IBiolC including:
 - HND
 - MSc
 - PhD
 - STEM
 - Development of CPD provision
- Liaison with industry members for student placements and guest lectures.
- Work with a wide range of stakeholders.



Academic Networks



Industry Network



Industry Membership Model



Benefits of membership:

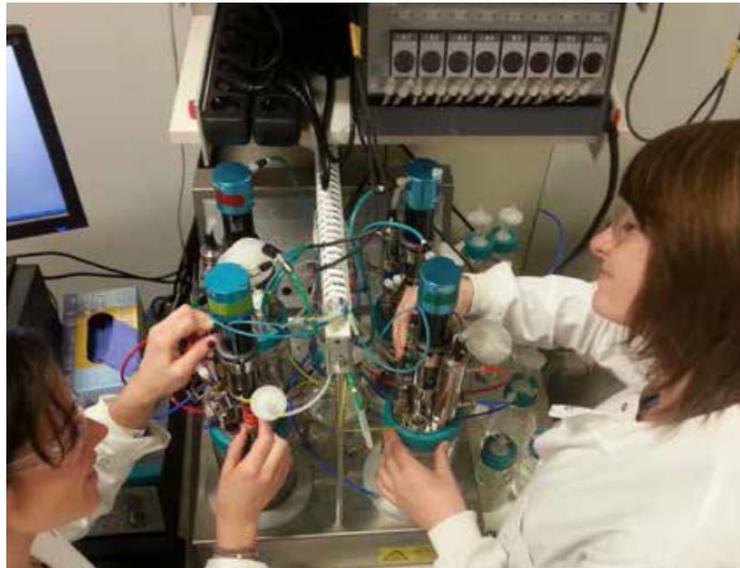
Inform the skills needs for IB sectors

Access to open competitions for project funding

Opportunity to host MSc placement student

Opportunity to host HND placement student

Opportunity to be industrial partner on funded PhD programme



Key facts

- **Study mode and duration:**
12 months full-time
24 months part-time
- **Start date:** September 2016
- **Work placement:** three-month placement with industry

MSc/PGDip

Industrial Biotechnology

Collaborative MSc in Industrial Biotechnology

MSc cohort – 2015/2016

- 30 funded places awarded by SFC to cover tuition fees for Scottish/ EU students.



MSc Core Modules (95 credits)

Introduction
to Scientific
Programming

Applied
Biocatalysis

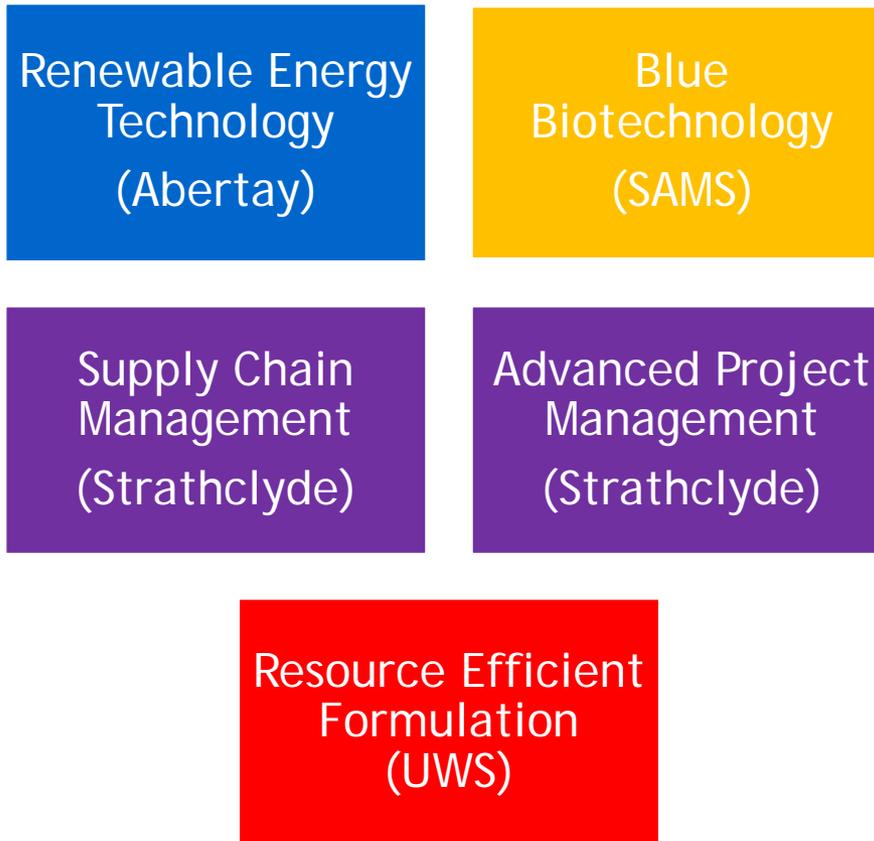
Bioprocessing

Synthetic
Biology

Downstream
Processing

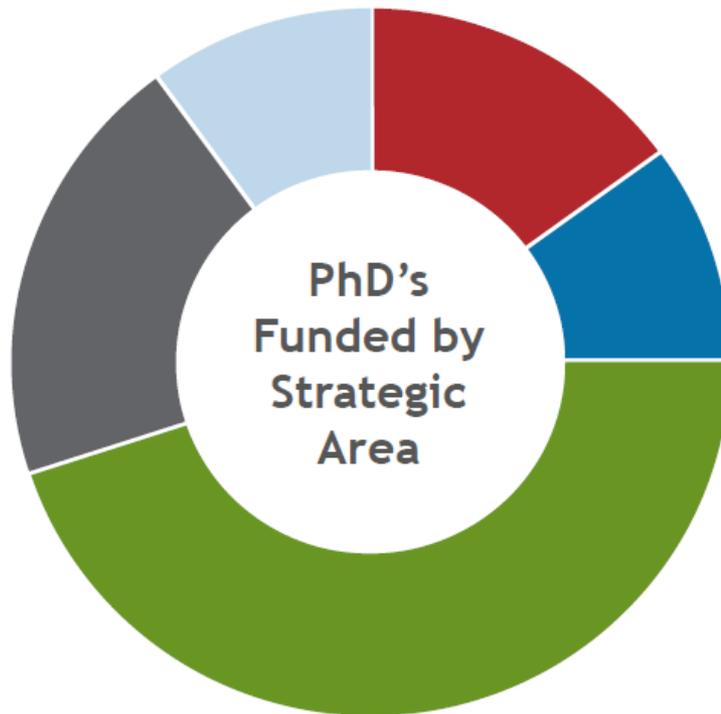
Bioinformatics

- Electives:

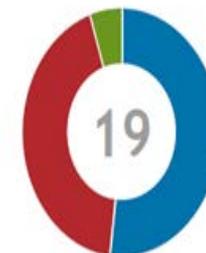


- **Industrial Project (semester 3, 60 credits)**
Minimum 12 week industrial project placement commencing May.

PhD



- Cell Factory Construction (3)
- Downstream Bioprocessing (2)
- Enzymes & Biocatalysis (8)
- Integrated Bioprocessing (4)
- Sustainable Feedstocks (2)



PhD students

19 PhD students
8 started in October 2014,
10 started in October 2015,
1 started in December 2015

Building the Links



Marine Biopolymers Ltd (MBL)

SME currently based in Ayr.

UK's leading producer of alginate & other natural polymers from brown seaweeds

IBioIC Core Member - hosted MSc placement student.

Placement student subsequently employed as Product Development Scientist - developing current alginate process for different seaweed species

Industrial partner on collaborative IBioIC funded PhD project in conjunction with James Hutton Institute examining antioxidants in seaweed.



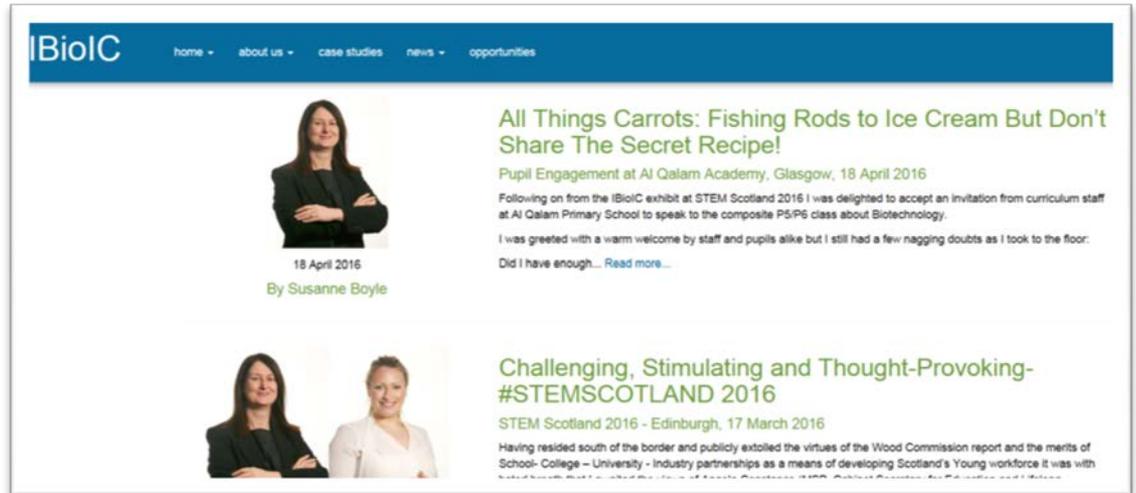


STEM and Outreach Portfolio

First cohort of 9 PhD students have undertaken a range of STEM engagement activities across Scotland including IB presentations to S2/ S3/S4 pupils.

Second cohort of PhD students (10) have completed training as STEM Ambassadors.

Skills Team participates in STEM engagement activities and updates via IBioIC website & blogs:



IBioIC home - about us - case studies news - opportunities


18 April 2016
By Susanne Boyle

All Things Carrots: Fishing Rods to Ice Cream But Don't Share The Secret Recipe!
Pupil Engagement at Al Qalam Academy, Glasgow, 18 April 2016
Following on from the IBioIC exhibit at STEM Scotland 2016 I was delighted to accept an invitation from curriculum staff at Al Qalam Primary School to speak to the composite P5/P6 class about Biotechnology.
I was greeted with a warm welcome by staff and pupils alike but I still had a few nagging doubts as I took to the floor:
Did I have enough... [Read more...](#)



Challenging, Stimulating and Thought-Provoking- #STEMSCOTLAND 2016
STEM Scotland 2016 - Edinburgh, 17 March 2016
Having resided south of the border and publicly extolled the virtues of the Wood Commission report and the merits of School-College - University - Industry partnerships as a means of developing Scotland's Young workforce it was with

Thank you for your
attention

Questions?

