Day of Science and Careers Scotland

Me and a SME

Kirsty Black
Product Development Manager
Introduction

• Enjoyed science from a young age, studied at Standard Grades and Higher level
• Studied BSc (Hons) Biomedical Science at Glasgow Caledonian University graduating in 2011
• Completed a Pg Dip in Bioengineering at Strathclyde University graduating 2012
• Worked in McDonalds for 7 years during studies
Entering the job market

Job market was slow and competitive
Demand for experience
Poor entry level salaries

Searches included:

Decided to go do a Postgraduate degree
Pg Dip Bioengineering

• Started a Pg Dip at Strathclyde University
• Benefits of the further degree:
  – Widened my study area and knowledge
  – Differentiated myself from other graduates
  – NHS placements

Challenging as the course taught at postgraduate level with a high workload but worthwhile!
Marine Biopolymers Limited-SME based in Ayrshire founded in 2009

Produce Alginates from indigenous macroalgae via multi-component extraction

Ambitions to commercialise further products

Hired in September 2012 as a Technical Developer on a 8 month Talent Scotland Placement
Alginates

• MBL have developed an innovative new alginate process
• Alginate is a polysaccharide found in the cell wall of brown algae
• Soluble and insoluble forms and various salts
• Linear structure of repeating monomers $\beta$-D-mannuronic acid and $\alpha$-L-guluronic acid
Applications

• Functionality and application dictated by m/g ratio
• M alginate thickens, G alginate gels
• Viscosity, colour and purity important
• Longer chain, higher viscosity
• Applications include:
Development of role

• Early role:
  – Sourcing and purchasing of equipment, lab and chemicals
  – Understanding alginates, the feedstock, the business and the process
  – Development work at lab and plant scale of the process
  – Day to day running of alginate pilot plant for customer samples
  – Basic analysis of samples and process runs
  – Seaside collection of beach cast seaweed

• Development of role:
  – Managing and training students and new employees
  – Liaising with potential customers and academia
  – Development of protocols, SOPS and process experiments
  – Project management
  – Proposal writing and project funding
  – Representing MBL at conferences and events
SeaBioTech

- EU FP7 project driven by SMEs to create innovative industrial products for the pharmaceutical, personal care, food and chemical industries.
Experience

• Process development: greater understanding of chemistry and it’s biomedical applications
• Commercialisation: developing an idea into a business
• Deeper understanding of analytical techniques and assay work e.g. product assays, activity assays, product analysis, nmr and ms analysis
• Preparing reports, proposals and in-house technical documents
• Personal skills: time management, confidence, public speaking
cons

Budget constraints
Resource constraints
High workload
Less of a social aspect
Less job stability
“winging it approach”
Pros

• Close knit environment
• Greater feeling of appreciation
• Greater understanding of the whole process
• Learn from people who are very experienced
• More freedom to investigate
• More involved in decision making
• Making my own mark!
Any Questions?