



Day of Science and Careers Scotland

Me and a SME



MARINE BIOPOLYMERS

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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

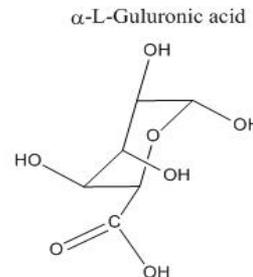
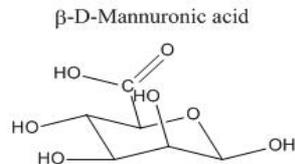
Challenging as the course taught at postgraduate level with a high workload but worthwhile!

Your Hired!

- 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

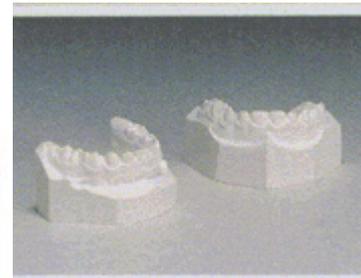
Alginates

- 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 β -D-mannuronic acid and α -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:

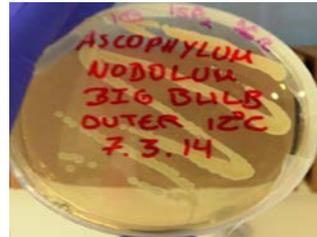


Development of role

- 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



- 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?

