How to develop generic skills: Developing knowledge of enterprise

Swansea University – Industrial PhDs

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Outline

- Introduction to Swansea University
- Postgraduate Skills Agenda
- EngD in Steel Technology
  - Sectoral Focus
  - Programme Management
  - Programme Structure
  - Assessment
  - Completion Rates
- Intellectual Property
Introduction to Swansea University

- Founded 1920
- £30m Annual Research Funding
- 10,000 Students
- Wales, UK
- Research-led University
- Growth in Student Numbers/Research Income
- Wales HE Sector – Cardiff, Swansea, Aberystwyth, Bangor
- Key Academic Strengths
  - Engineering (Mechanical, Materials, Civil, Electrical, Chemical)
  - Life Sciences/Medicine
  - Geography (Human Geography, Climate Change)
  - Human Sciences (Childhood Studies, Ageing, Psychology, Sports Science)
  - Telecommunications (Biosensing, Wireless Technology)
Postgraduate Skills Agenda

- Industrial PhD Programmes in Electrical/Materials/Chemical Engineering, Water Management, Print, Aquaculture
- Technical v Vocational
- Employability Skills – seminar programmes, industry supervision
- Commercial Exposure
- Intrapreneurship
- SME – Driving the Business!
- Intellectual Property – Realising the Value…
EngD in Steel Technology
Programme Aims

EngD Graduates will have the Technical Capabilities, Professional Skills and Personal Attributes essential to future career success at Technical, Managerial and Executive level.
## Sponsoring companies

<table>
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<tr>
<th>Company</th>
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<tr>
<td>Corus Group</td>
<td>JCB</td>
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<tr>
<td>Akzo Nobel</td>
<td>TWI</td>
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<td>Land Rover / Jaguar</td>
<td>Niobium Products</td>
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<td>Crown Cork and Seal</td>
<td>Alstom</td>
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<td>Cogent Power</td>
<td>Wedge Group Galvanisers</td>
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<td>Qinetiq</td>
<td>Wales Waste Management</td>
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<td>Bayer Materials Science</td>
<td>Dyesol</td>
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<td>BASF</td>
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<td>Beckers</td>
<td>Castech</td>
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<td>Rockfield Software</td>
<td>Novelis</td>
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<td>Newport Galvanisers</td>
<td>Alcan International</td>
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Programme Management

Currently 41 REs enrolled at 4 Welsh HEIs
Training Programme (19 compulsory modules)

- Technical and professional skills modules
- Management and financial issues training
- All modules are examined
- Opportunities for specialist courses
Industrial site visits

- Centre organised tours to Holland, Germany and France
- Similar centre organised visits to UK locations
- Opportunities to perform collaborative research in Europe
Industry Selected Research Project

Research Performed at Industrial and University Locations
Background of Intake

All with minimum 2.1 equivalent in science or engineering
Assessing Progress

- Regular Meetings with Supervisory team
- 4-Monthly Review Meetings
- Maintenance of Personal Log

- Annual Appraisal
- Performance Related Pay
Completion Rates

- Completed EngD (85%)
- Completed Mres (6%)
- PG Cert or No qualification (9%)

124 EngD graduates to-date
Employment by sector

- Industry (70%)
- Academia (10%)
- Self-Employed (1%)
- Government (4%)
- Other (15%)
EngD in Steel Technology; the future

- Expanding partnership (ICL, Sheffield and Tata)
- Flexible training portfolio (IPD for industrial partners)
- Clusters of research activity; functional materials

- New EngD topics (Energy, Water and Environmental Management)
Financial Support

- Scheme funded by EPSRC
- Stipend of £16,600
- All associated costs such as fees, training are covered by the industrial partner
- Travel allowance
- Tour of UK and European Manufacturing Plants
- Gala Dinner with Industrialists
Intellectual Property

- Defining Background Intellectual Property (IP)
- Agreeing Terms for Use of Foreground IP – limit to specific fields/markets
- Commercialisation Plan: Buy-in from the University and Company

Important
- Understanding and Protecting the Student Rights
- Publication Clauses – Vital!
- State Aid – Complex and Risky

- **IP as a Career Platform**
Three Party Approach

The Company – WIN?
The University – WIN?
The Student – WIN?
Thank you