

It's not what you know ... it's who you know: Vocational network development within Professional Doctorate programmes.

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The Industrial Doctorate Centre for the Water Sector

Stream The Industrial Doctorate Centre for the Water Sector

Cranfield
UNIVERSITY



UNIVERSITY OF
EXETER

Imperial College
London



EPSRC
Pioneering research
and skills

AGENDA

1. Outline of the STREAM IDC
2. In what sense is STREAM a PD programme ?
3. Why are professional networks important ?
4. What challenges and constraints stand in the way of REs developing their networks ?
5. What evidence / principles are our approach based on ?
6. What steps have we taken to help REs develop their networks

New DTC's launched in Jan 09



STREAM is one of 17 IDCs and is the;

- only environment / natural resources focused IDC
- only consortium with more than three partners
- one of the few with a cohort based structure



IDCs a strategic investment

“Britain faces many challenges in the 21st Century and needs scientists and engineers with the right skills to find answers to these challenges, build a strong economy and keep us globally competitive. EPSRC’s Centres for Doctoral Training will provide a new wave of engineers and scientists to do the job.”

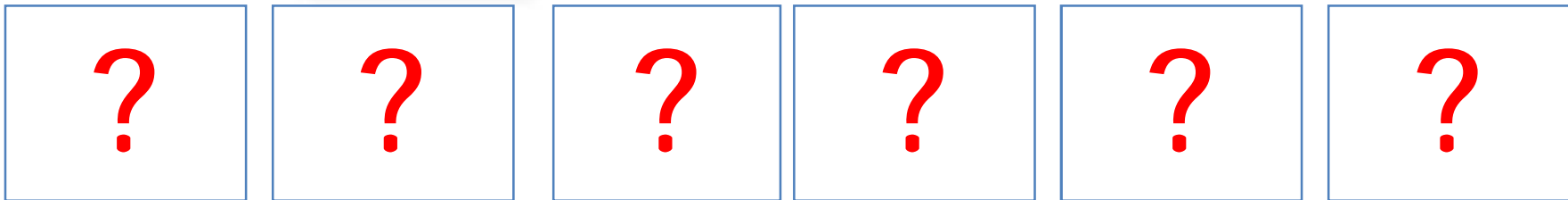


Lord Drayson - Minister of State for Science and Innovation

50 New Engineering Leaders



The Industrial Doctorate Centre for the Water Sector



How does STREAM function ?

- Sell projects
- Recruit students
- Induction semester at Cranfield
- Doctoral level research
- Transferable Skills & Engineering Leadership
- Advanced Technical Skills
- Have fun and develop careers (Challenge Week, Symposium, Conferences, papers, prizes, Prof. Institutes, etc.)



In what sense is STREAM a PD Programme ?



Descriptor	Relevant to STREAM
Advanced study and research, designed specifically to meet the needs of industry and professional groups	ü
Blend of coursework and research	ü
Foster excellence in professional practice	ü
Develop the capacity of individuals to lead knowledge generation in their professional contexts	ü
Integrate academic and professional knowledge	ü
Targeted at experienced practitioners	X
Typically part-time programme	X



Why are professional networks important ?

- It's the way business and academia work
- Career making
- Supportive
- Opportunities
- Learn



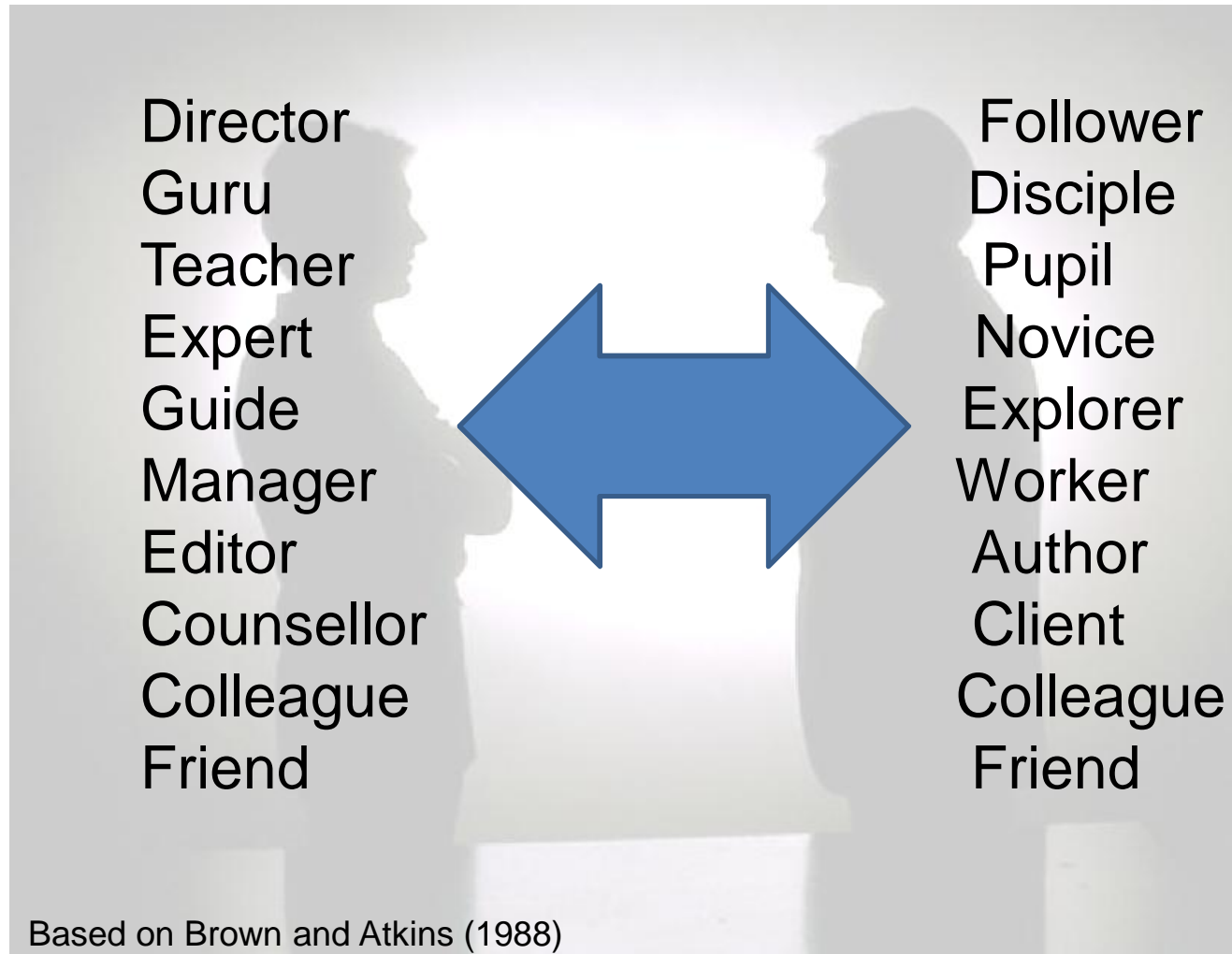
What
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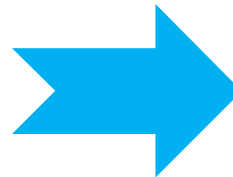
Competing ambitions ?

EPSRC	Student	Supervisor	Industrial sponsor
Experience of leading edge research in a business context	Pursue research interest	Low maintenance student	High value research
Equip REs for industry	Get the award	Complete on time	Support business processes
Collaboration between academics and companies	Improve employability	Generate some papers	Employable graduate
Contribute to the body of knowledge	Develop professional network	Generate more funding	Strengthen network / collaboration
	Make a contribution	Strengthen network / collaboration	

Variety of relationships



From registration to graduation, REs have four years to grow their networks



What evidence / principles inform our approach ?

- ‘no compelling evidence that digitally-mediated interaction will replace meaningful face-to-face interaction’ (Ynalvez & Shrum 2008)
- Importance of hands-on collaborative learning in creating a community of practice (Rush et. al., 2008)
- Networking involves sophisticated forms of social practice and also implies and potentially creates and regulates a particular kind of identity, namely that of the networked professional (Anderson-Gough et. al., 2006)
- Developments in social networking behaviour and applications
- Remember we are starting with individuals with little or no existing professional network

Previous experiences with EngD, CASE and PhD students

- Mentors / Heroes
- Core and periphery
- Episodic
- Purposeful and capricious
- Transitory
- Second, third and fourth order relationships



... in short ... very
difficult to control

Principles

- Help REs understand the benefits of a healthy professional network
- Encourage, prompt, and facilitate – don't force or badger
- Exploit supervisory team's existing networks
- Promote the Cohort and the set of cohorts as a network





What steps
have we taken
to help REs
develop their
networks ?

Programme components designed to afford extended and repeated contact with a range of communities



Intervention	Details	Intended effect
Common induction semester	Each cohort spends Oct-Dec attending same five modules + Group Design Project at Cranfield.	Build cohort identity in early stages of programme. Community building through shared experience.
Inter-cohort symposium	Run at end of induction semester – all cohorts make presentations / posters on their work	First opportunity for new cohort to meet with others – semi competitive.
Challenge week	Residential week run in July each year. All cohorts attend	Intense inter-cohort interaction and chance to bring in leading sector figures to make presentations
Payment of fees for professional institutions	Fees for two professional institutes paid for by the programme	Provide cost-free opportunities for professional development and networking



Programme components designed to afford extended and repeated contact with a range of communities




Intervention	Details	Intended effect
Second supervisors	The primary academic supervisor based at the REs home institution is supported by one or more co-supervisors from other STREAM partner universities	Ensure that STREAM is recognised by REs as a truly collaborative undertaking + expose REs to the networks of more than one relevant expert.
Collaborative visiting student agreement	All STREAM students are registered as visiting students at the four unis that they are not hosted at.	'Home' is the consortium – not just one of the universities.
Prizes	Set of four intra and inter cohort prizes	Promote cohort identity
Transferable Skills & Engineering Leadership course	Five week long modules attended by whole cohort.	Reinforce cohort cohesion and collaborative working throughout the programme
Visiting lecturers from sector	Speakers from regulators, govt, utilities, consultancies etc.	Opportunity to spend extended time with range of professionals




STREAM Website



The Industrial Doctorate Centre for the Water Sector



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Home
Research Engineers
Sponsors
Programme Background

We will soon be recruiting students for Cohort 1 (studies commence October 2009)

Register [here](#) for details of available projects

Please [click](#) here for details of funded projects available for 2009

A stipend of £19k rising to £20k is available for suitably qualified applicants



The UK water sector is entering a period of profound change and requires a new cadre of engineering leaders with the skills and competencies to tackle pressing challenges driven by issues such as climate change and energy efficiency.

stream is an Industrial Doctoral Centre (IDC) for the Water Sector funded through the Engineering and Physical Sciences Research Council. Launching the centres, Professor D Delpy, Chief Executive of EPSRC, called for them to "*meet the challenges of tomorrow by investing in talented people and inspiring the next generation of scientists and engineers*".

The **stream** programme is delivered by five universities, coordinated by Cranfield University and including Imperial College London and the universities of Sheffield, Newcastle, and Exeter. It provides opportunities for industry to sponsor research projects and allows talented researchers to develop their skills and careers within an industrial environment and obtain an Engineering Doctorate (EngD) degree.

Industrially funded projects for the first cohort of stream Research Engineers (REs) to tackle are now available. Please click [here](#) for details of funded projects available for 2009. RE studies start in October 2009. If you are interested in sponsoring a research project or would like to apply for a place on the programme as a Research Engineer, please [contact](#) the **stream** office.



STREAM-ER (to come in late 2009)



Web2.0 application to support a blended and collaborative learning model – a regulated professional networking site

- Areas to support delivery of the taught elements of the programme;
(i) advanced technical skills, (ii) transferable skills & engineering leadership, (iii) research.
- A shared or collaborative workspace and video conferencing function (synchronous) with video, voice and shared presentations / whiteboards.
- Blogs – Research Engineers should be able to maintain a blog of their experiences. These will be updated weekly and contain text, images, video. A selection of blog entries will also be available via the public website.
- File repository & file sharing.
- Multimedia presentations (lectures, video clips, etc.).
- A ‘Help’ surgery for RE’s to post problems / requests for support to their colleagues and academics from the five universities.
- A careers section containing interviews with people in a variety of job roles.

Research Engineer reactions

- Only 3 weeks in they look pretty overwhelmed at the moment !
- Prof. Inst. membership & visiting lecturer initiatives very popular
- More informal encounters requested
- ‘Student’ tag erodes confidence in one-to-one situations
- ‘What do I do with all these contacts ?’

Postscript



Our Research Engineers have not only kick-started their own professional networks .. they are strengthening and extending the networks of those they come into contact with.

