Developing world class researchers
Dr Janet Metcalfe, Vitae
19th October 2017
www.vitae.ac.uk
Developing world class researchers

- Why invest in doctoral education
- The researcher journey
- Employers’ views of researchers
- Key challenges in developing world class researchers
Why invest in doctoral programmes and researchers?

- Economic development – growing and sustaining employment
- Enhancing the absorptive capacity of the economy to assimilate research advances
- Developing the country’s international reputation – attracting and retaining investment and people
- Education and training of the population
- Societal benefits – better healthcare, better public services, better policy-making
- Enriching our culture and civilisation
The way research is done is changing

- Interdisciplinary research / multidisciplinary research teams / team science / international development goals
- Intersectoral collaborations / innovative / evidencing impact
- Open research / publication / data
- Research integrity / RRI / reproducibility

Being an excellent researcher is not enough…
Vitae: Supporting the researcher journey

Supervisory support and mentoring

Initial stage
- Induction
- Supervision relationship
- Training needs analysis
- Effective researcher

Making progress
- Keeping on track
- Publication
- GRADSchool

Final stage
- Preparing for viva
- Networking
- Raising profile
- Careers advice

Research staff
- Independence
- Profile

Employment
- Career opportunities
- Career support

Underpinning Vitae Researcher Development Framework / Planner
- self reflection / action planning / evidence & CV building

Comprehensive professional development programme
- Building capacity
  - Researcher experience
  - Train the trainer
  - Sharing practice
- Targeted provision
  - Research integrity
  - Public engagement
  - Leadership
Vitae Researcher Development Framework

- Framework of the knowledge, behaviour and attributes of successful researchers
- Recognise researchers as professionals
- Encompass the breadth of researcher activities
- Enables self-assessment of strengths and areas for further development
- Common language for researchers capabilities
- Used in Europe, Africa, Asia, Australia
Vitae Researcher Development Framework

The RDF underpins professional development at all levels

- Individual researchers throughout their careers
- Institutional provision
- Institutional strategy
- Policy reference document

“The RDF provides a valuable mechanism to increase institutions’ capabilities to develop world class researchers.”

Professor April McMahon, Vice-Chancellor, Aberystwyth
How the RDF can help researchers

- Personal and professional development
  - Understand strengths
  - Identify areas for development
  - Set goals

- Self-assessment and review

- Identify your transferable competencies

- Broadens your view of available career options

- Help with CVs, job applications and interviews
Development of competencies during doctoral programme

Formally

- Intellectual enquiry
- Problem solving
- Responsibility
- Effective communication
- Team working
- Proactivity
- Creativity
- Networking
- Innovation
- Project management
- Understanding IPR
- Flexibility
- People management
- Time management
- Leadership and influence
- Interview skills
- Career management
- Entrepreneurial skills
- Business awareness
- Identifying career opportunities

Not at all

Formally

Informally

Other activities

Not at all

Professional competencies of doctoral researchers, Eastern European country, 2014
## Employers’ expectation of researchers’ competencies

<table>
<thead>
<tr>
<th>Competency</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data analysis</td>
<td>100%</td>
<td>100%</td>
<td>91%</td>
<td>91%</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>100%</td>
<td>88%</td>
<td>89%</td>
<td>83%</td>
</tr>
<tr>
<td>Drive and Motivation</td>
<td>100%</td>
<td>84%</td>
<td>59%</td>
<td>74%</td>
</tr>
<tr>
<td>Project Management</td>
<td>83%</td>
<td>36%</td>
<td>70%</td>
<td>39%</td>
</tr>
<tr>
<td>Interpersonal Skills</td>
<td>67%</td>
<td>56%</td>
<td>39%</td>
<td>26%</td>
</tr>
<tr>
<td>Leadership</td>
<td>67%</td>
<td>28%</td>
<td>24%</td>
<td>17%</td>
</tr>
<tr>
<td>Commercial awareness</td>
<td>50%</td>
<td>20%</td>
<td>28%</td>
<td>22%</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>81%</td>
<td>59%</td>
<td>57%</td>
<td>50%</td>
</tr>
</tbody>
</table>

### Employer categories

- **Group 1**: actively target doctorates
- **Group 2**: strong interest
- **Group 3**: some interest, occasionally recruit
- **Group 4**: no interest

Recruiting researchers, 2009, 104 employers
### How well researchers evidence their competencies

<table>
<thead>
<tr>
<th></th>
<th>Very well</th>
<th>Fairly well</th>
<th>Not very well</th>
<th>Not well at all</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research skills and experience</strong></td>
<td>60%</td>
<td>35%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Professional effectiveness</strong></td>
<td>16%</td>
<td>59%</td>
<td>23%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Self management</strong></td>
<td>13%</td>
<td>54%</td>
<td>29%</td>
<td>4%</td>
</tr>
<tr>
<td><strong>People skills</strong></td>
<td>5%</td>
<td>38%</td>
<td>[50%]</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Communication skills</strong></td>
<td>2%</td>
<td>24%</td>
<td>49%</td>
<td>25%</td>
</tr>
</tbody>
</table>
Employability lens on the RDF

- Subject knowledge
- Research methods
- Languages
- Analysing
- Critical thinking
- Problem solving
- Inquiring mind
- Intellectual insight
- Innovation
- Time management
- Responsiveness to change
- Enthusiasm
- Perseverance
- Self confidence
- Responsibility
- Continuing professional development
- Networking
- Team working
- People management
- Influence and leadership
- Collaboration
- Communication
- Enterprise
- Project planning and delivery
- Financial management
- Work-life balance
- Involvement and impact
- Knowledge and intellectual abilities
- Personal effectiveness
- Professional and transferable skills
- Communication
- Information and data management
- Critical thinking
- Creative thinking
- Problem solving
- Inquire and mind
- Intellectual insight
- Innovation
- Time management
- Responsiveness to change
- Enthusiasm
- Perseverance
- Self confidence
- Responsibility
- Continuing professional development
- Networking
- Team working
- People management
- Influence and leadership
- Collaboration
- Communication
- Enterprise
- Project planning and delivery
- Financial management
- Work-life balance
- Involvement and impact
- Knowledge and intellectual abilities
- Personal effectiveness
- Professional and transferable skills
- Communication
- Information and data management
- Critical thinking
- Creative thinking
- Problem solving
- Inquire and mind
- Intellectual insight
- Innovation
- Time management
- Responsiveness to change
- Enthusiasm
- Perseverance
- Self confidence
- Responsibility
- Continuing professional development
- Networking
- Team working
- People management
- Influence and leadership
- Collaboration
- Communication
- Enterprise
- Project planning and delivery
- Financial management
- Work-life balance
- Involvement and impact
- Knowledge and intellectual abilities
- Personal effectiveness
- Professional and transferable skills
- Communication
- Information and data management
- Critical thinking
- Creative thinking
- Problem solving
- Inquire and mind
- Intellectual insight
- Innovation
- Time management
- Responsiveness to change
- Enthusiasm
- Perseverance
- Self confidence
- Responsibility
- Continuing professional development
- Networking
- Team working
- People management
- Influence and leadership
- Collaboration
- Communication
- Enterprise
- Project planning and delivery
- Financial management
- Work-life balance
- Involvement and impact
- Knowledge and intellectual abilities
- Personal effectiveness
- Professional and transferable skills
- Communication
- Information and data management
- Critical thinking
- Creative thinking
- Problem solving
- Inquire and mind
- Intellectual insight
- Innovation
- Time management
- Responsiveness to change
- Enthusiasm
- Perseverance
- Self confidence
- Responsibility
- Continuing professional development
- Networking
EURAXIND: We also asked...

- What researchers believe they are good at
- What researchers think employers want
- What institutions believe to be top employable skills
- What employers say they need
Most valued in highly-skilled employees

- Problem solving
- Technical / subject expertise
- Research skills
- Communication
- Creativity
- Self-organisation
- Collaboration
- Innovation
- Project management
- Emotional intelligence

Motivation / self confidence
Flexibility / agility
Strategic challenges for developing world-class researchers

- Developing a training and talent development strategy for the whole researcher pipeline
- Providing professional development provision to meet diverse individuals and career needs
- Increasing the engagement of researchers, supervisors, PIs in professional development
- Having levers and drivers to get commitment at all levels for cultural change
- Raising awareness of a broad range of career opportunities
- Increasing the absorptive capacity of businesses to employ researchers