PRESENTACIONES del

TERCER ENCUENTRO ANUAL EUA-CDE

4 y 5 de junio 2010

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ÍNDICE DE DOCUMENTOS

*se han eliminado las ponencias de las que no existían presentaciones en la página de la EUA en la fecha de recuperación)

PRESENTATIONS

Plenary Session I: The Future of the Doctorate

PlenaryI_KRULL, Secretary General, Volkswagen Foundation, Germany
Plenary_I_O_Carroll, Head of the Research Office, Irish Universities Association, Ireland

Plenary Session II: Salzburg II – introduction to the working group sessions

PlenaryII_Chambaz, Vice President for Research, Pierre et Marie Curie Faculty of Medicine, France and EUA-CDE Steering Committee Chair

EU support for doctoral candidates - Experience to date and future perspectives

ECOfficials_Panel_Discussion_Debiais-Sainton, Policy Officer, DG Education and Culture, People Programme: Marie Cu Actions, Unit A6, European Commission

Plenary Session IV: The Salzburg principles in perspectives

PlenaryIV_DePauw, Past Chair, Council of Graduate Schools, Vice President, Graduate Studies and Dean, Graduate School, Virginia Polytechnic Institute and State University, United Stated
PlenaryIV_Moreno_Navarro, Director Gerenal for Univesities Policy, Ministry of Education, Spain
PlenaryIV_Morland, Director General, Norwegian Agency for Quality Assurance in Education (NOKUT), Norway

VolkswagenStiftung

Wilhelm Krull

The Future of the Doctorate

Berlin, 4 June 2010

Three Main Points:

1. **Defining the Past and Present Situation:**

   Where do we come from and where are we now?

2. **The Way Ahead:**

   Where do we want to go, and how do we get there?

3. **Challenges, Risks, and Opportunities:**

   What is there to be gained by reconfiguring the doctorate?

`***Cheshire Puss***,' [Alice] began, rather timidly, (…)`***Would you tell me, please, which way I ought to go from here?***'

`***That depends a good deal on where you want to get to***,' said the Cat.

`***I don't much care where -***' said Alice.

`***Then it doesn't matter which way you go***,' said the Cat.

`***- so long as I get SOMEWHERE***,' Alice added as an explanation.

`***Oh, you're sure to do that***,' said the Cat, `***if you only walk long enough***.'

Lewis Carroll, Alice in Wonderland

1. Defining the Past and Present Situation

A Continent Divided: Different Pathways to the Doctorate

Since 1800, different pathways to the doctorate evolved in Europe:

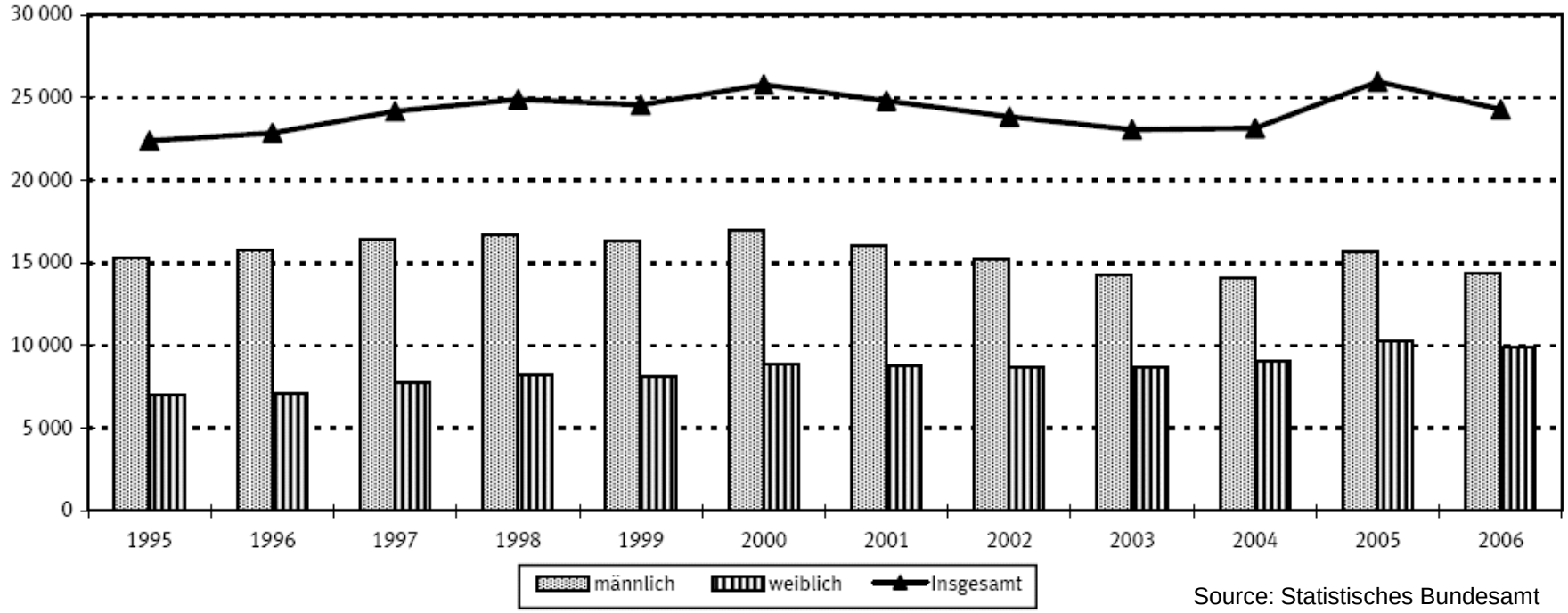
France: **Professional orientation** in the Grandes Ecoles.
(➔ PhD culture and graduate schools need to be developed).

Germany: Invention of the **modern research university** based on Humboldt‘s four principles:

1. Education through scholarship
2. Freedom of teaching and research
3. Unity of science and scholarship
4. Unity of research and teaching.

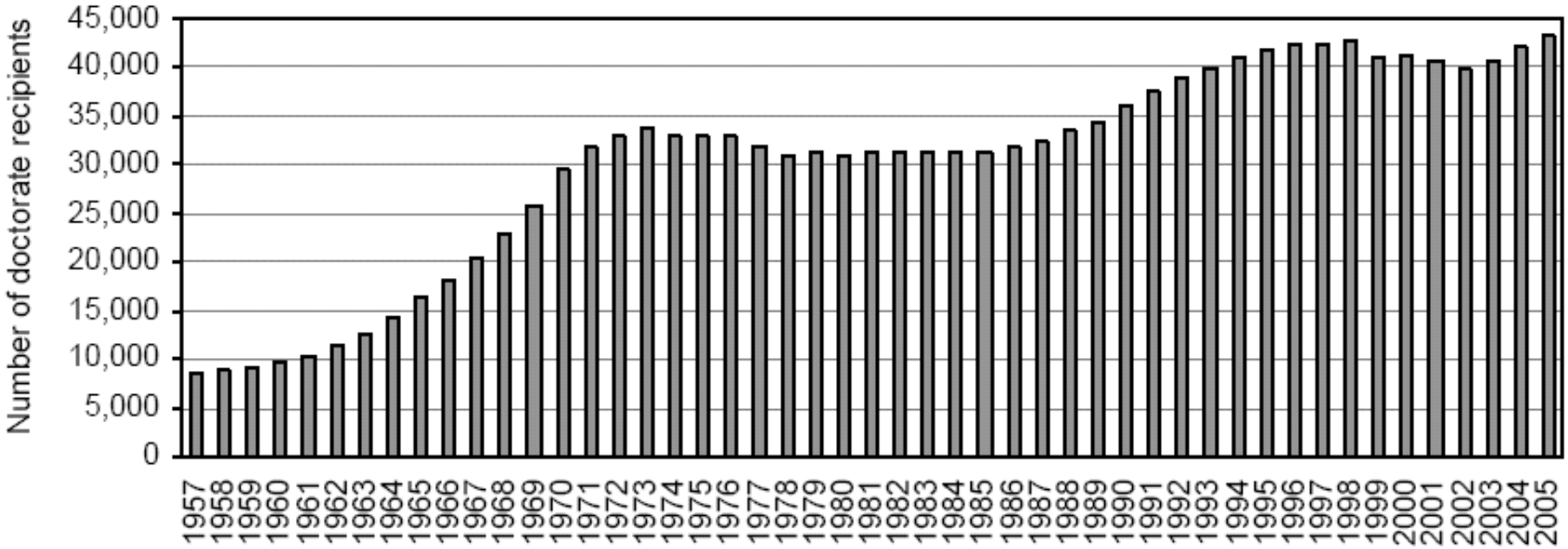
Lab-based teaching (Justus v. Liebig) promotes doctoral orientation, e.g. in chemistry.

Number of Doctoral Graduates in Germany, 1995-2006

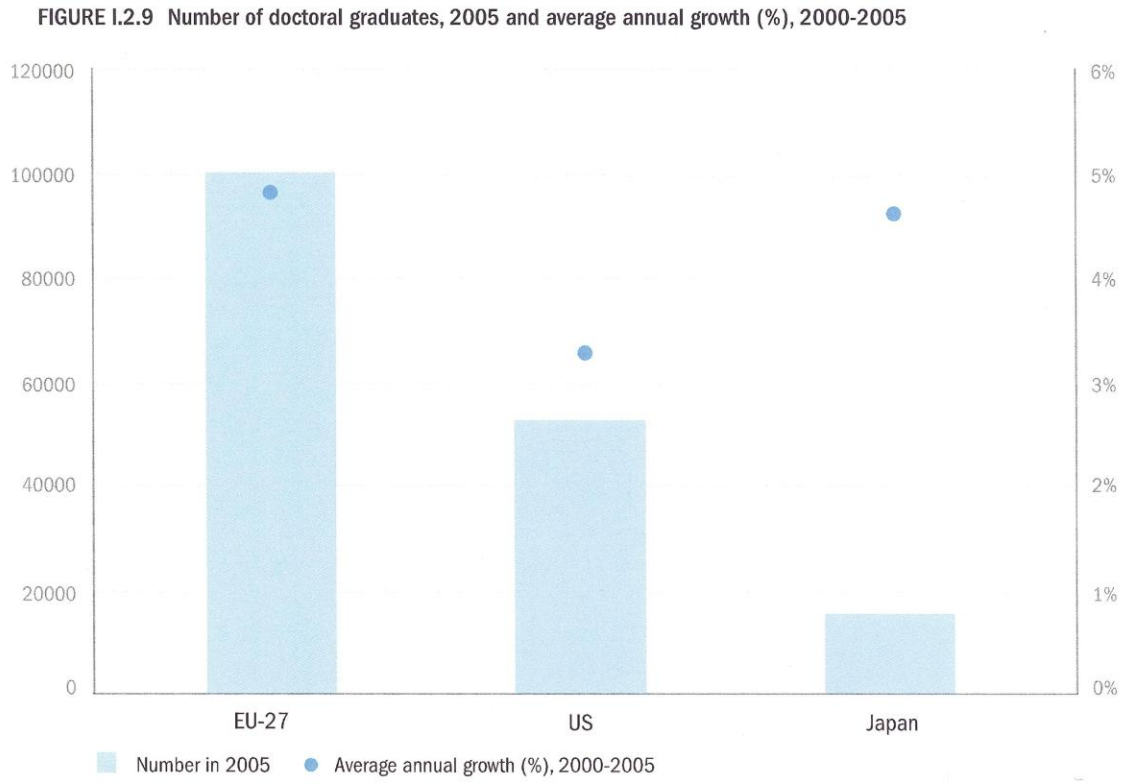


Source: Statistisches Bundesamt

Number of Doctoral Graduates in the United States, 1957-2005

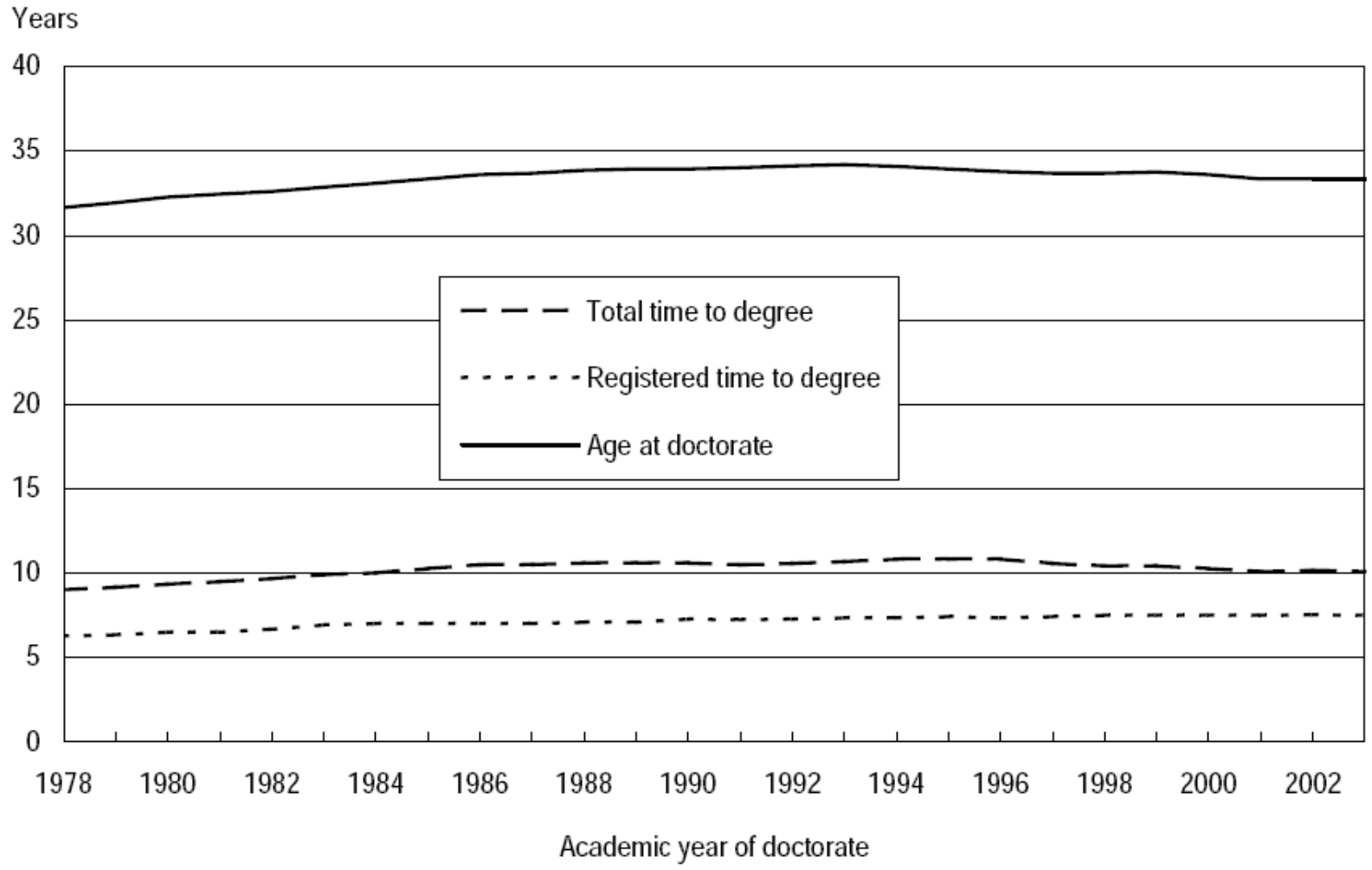


Number of Doctoral Graduates, 2005 and Average Annual Growth (%), 2000-2005



Source: Key Figures Report 2008

A Long Way to Go – Average Time to Degree in the United States



Source: *SED, Survey of Earned Doctorats*

PhD International

DAAD — Call “International Promovieren in Deutschland”

DFG — International Graduate Schools

MAX-PLANCK-GESELLSCHAFT — Max Planck Research Schools

Education and Culture Erasmus Mundus — Erasmus Mundus Joint Doctorates

EUA European University Association — Doctoral Programmes Project

Short-term Funding vs. Long-Term Research: PhD Studies in Germany

Average Funding Duration of PhD Grants	2-3 years
Average Time to PhD Degree	4.6 years

Graduate Schools as a "Sign of Hope" for German PhD Students

In the **mid-1980s**, the German Science Council ("Wissenschaftsrat") recommended a restructuring of university teaching:

➔ Private foundations offered support to universities willing to implement new **thematically focused graduate training facilities**.

➔ **Today**, the German Research Association (DFG) funds more than 250 such "**Graduiertenkollegs**".

In 2005, the Federal and Länder Governments launched the „Initiative on Excellence":

➔ 39 **Graduate Schools** are currently being funded at German universities.

False Dichotomies

Despite the reform of doctoral education in Germany, several **false dichotomies** still persist:

1. **Transparency versus Autonomy**
2. **Solitude versus Teamwork**
3. **Third Cycle versus Early-Stage Researcher**

The Salzburg Principles (2005)

1. The core component of doctoral training is the **advancement of knowledge** through original research.

2. Doctoral programmes and research training have to be designed to **meet new challenges** and include appropriate professional career development opportunities.

3. The rich **diversity** of doctoral programmes in Europe is a strength.

4. Doctoral candidates as **early stage researchers** should be recognised as professionals who make a key contribution to the creation of new knowledge.

5. Arrangements for supervision and assessment should be based on a **transparent contractual framework** of shared responsibilities between doctoral candidates, supervisors and the institution.

The Salzburg Principles (2005)

6. Doctoral programmes should seek to achieve **critical mass**.

7. Doctoral programmes should operate within **appropriate time duration** (three to four years full-time as a rule).

8. The **promotion of innovative structures**: to meet the challenge of interdisciplinary training and the development of transferable skills.

9. Geographical as well as interdisciplinary and intersectoral **mobility** should be fostered.

10. The development of quality doctoral programmes and the successful completion by doctoral candidates requires **appropriate and sustainable funding**.

„Those are my principles, and if you don't like them... well, I have others.”

Groucho Marx

VolkswagenStiftung

2. The Way Ahead

The PhD – A Degree in Morality?

"***We view the doctorate as a degree that exists at the junction of the intellectual and moral. The Ph.D. recipient is expected to serve as a steward of her discipline or profession: dedicated to the integrity of its work in the generation, critique, transformation, transmission and use of its knowledge***."

Lee S. Shulman, President Emeritus,
Carnegie Foundation for the Advancement of Teaching

THE CARNEGIE FOUNDATION *for the* ADVANCEMENT *of* TEACHING

‚Steward of a Discipline'

***„The Ph.D. holder should be capable of generating new knowledge and defending knowledge claims against challenges and criticism; of conserving the most important ideas and findings that are a legacy of past and current work; and of transforming knowledge that has been generated and conserved into powerful pedagogies of engagement, understanding and application* […]"**

George Walker, Senior Scholar
Carnegie Foundation for the Advancement of Teaching

An Example: Doctoral Education in Chemistry

As proposed by Alvin L. Kwiram, University of Washington, Seattle

Suggested "enhancement curriculum" for Ph.D. programs in chemistry

Topic	Year one	Year two	Year three	Year four
Ethics		Q 1		
Intellectual property and technology transfer	Q3			Q4
Interpersonal communication	Q4			
Proposal writing			Q3	Q1, Q3
Team work	Q1			
Interdisciplinary breadth			Q1-Q3	
"Propositions"		Q2	Q2	Q2
Careers in industry		Q4		Q3
Technology and tools	Q2	Q3		

NOTES: Q = academic quarter

An Example: Doctoral Education in Chemistry

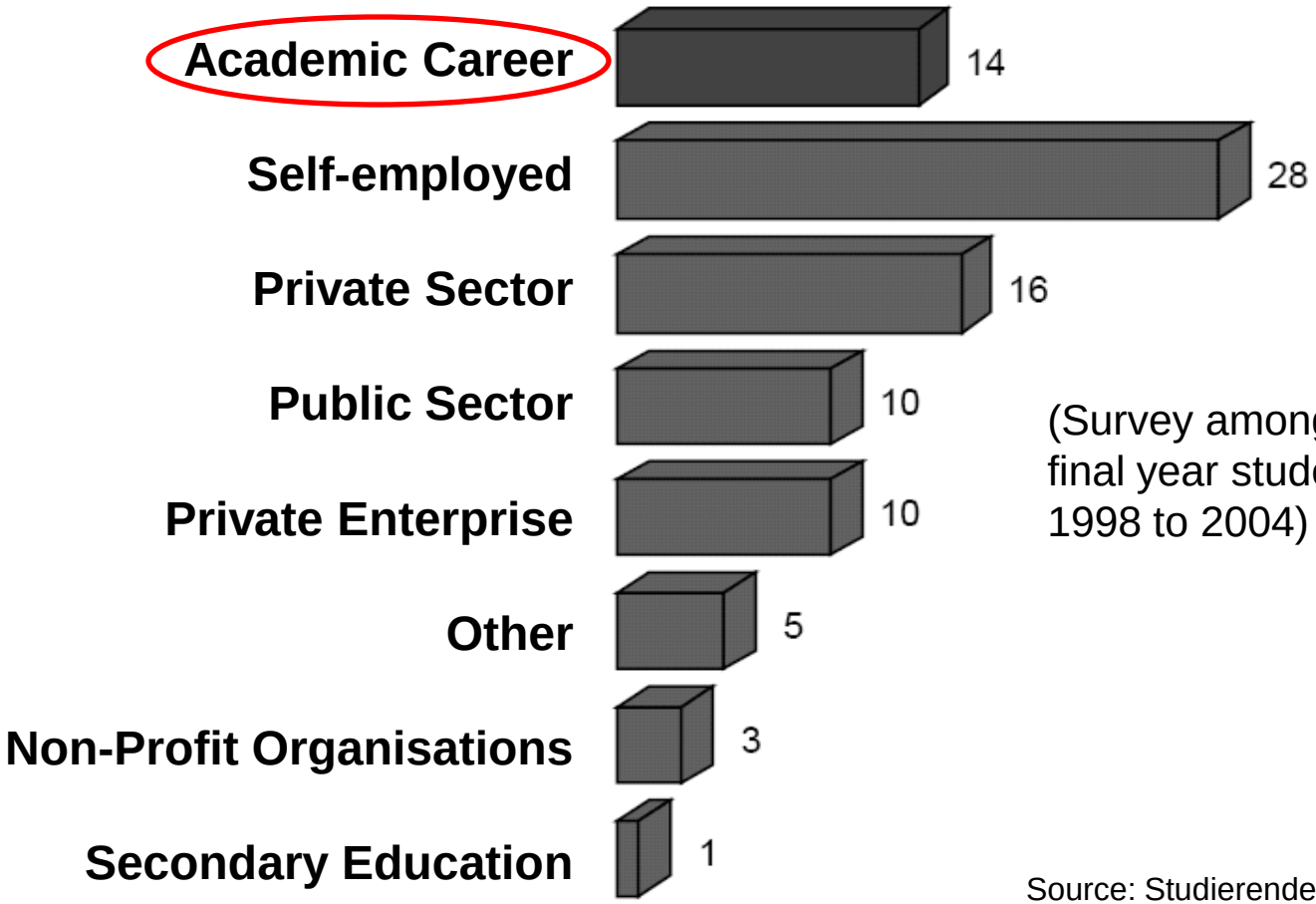
As proposed by Alvin L. Kwiram, University of Washington, Seattle

Suggested curriculum for a postdoctoral future faculty program in chemistry

Topic	Summer one	Year one	Summer two	Year two
Philosophy and pedagogy	one month			
Teaching apprenticeship		two to three terms*		
History of the discipline				one term
Increased breadth				one term
Management skills	one month			
Diversity and ethics			two weeks	
Grantwriting	two weeks	monthly		monthly

**A term could either be a quarter or a semester, as appropriate. The 2- to 3-term teaching apprenticeship thus represents one academic year.*

Career Objectives of Prospective PhD Students



(Survey among third to final year students (%), 1998 to 2004)

Source: Studierendensurvey 1983-2004, AG Hochschulforschung, Universität Konstanz.

What do Employers Expect?

Skills	Motivation	Experience
• analytical and conceptual skills • teamwork skills • communicative skills • presentation skills • foreign language competence • computer skills	• dedication • initiative • entrepreneurial spirit • resilience • mobility	• research experience • internships • stays and studies abroad • involvement in social networks • civic engagement

Different Expectations – Different PhD Programmes

Ph.D. = **Doctor of Philosophy**

- ➔ traditional research doctorate;
- ➔ requirement for a career as a university professor or researcher

DBA = **Doctor of Business Administration**

- ➔ tends more towards applied than theoretical research

Ed.D. = **Doctor of Education**

- ➔ research papers on various topics in the first two years
- ➔ prepares the student for academic, administrative, clinical or research positions in education

PhD Networks and Alliances: Two Examples

Molecular Biology MSc / PhD Programme at Göttingen

Aim: Intensive, research-oriented education in an inspiring, international environment.

Partners:
- University of Göttingen
- Max Planck Institute for Biophysical Chemistry
- Max Planck Institute for Experimental Medicine
- German Primate Centre

A Pilot Scheme of European Summer Schools of Excellence

Aim: Building an international network of excellent students in selected areas.

Partners: A consortium of European universities, research institutes and foundations.

3. Challenges, Risks, and Opportunities

Global Changes and Challenges

- Rapid scientific and technological advancements have led to a communications revolution that is pervading every region of the world.
- The political changes following the end of the 'cold war' have led to liberalised trade and movement of people between countries.
- Globalisation has resulted in rapid economic benefits for some countries while causing acute social problems for others.
- The present pattern of socio-economic development cannot be sustained indefinitely because of its harmful impact on the environment.
- A shift towards a developmental paradigm that considers sustainability as its central requirement is an imperative for the new millennium.

European Research in a Globalised World

- Europe is **loosing ground in the field of basic breakthroughs**.
- Nobel prices and similarly **prestigious awards are won mainly by scientists working in the USA**.
- Before the establishment of the ERC in 2007, Europe suffered from an almost total **lack of transnational support of basic and strategic research**.
- Research is still not supported sufficiently in Europe, particularly with respect to risky, open-ended ‘frontier research’.
- Today‘s knowledge-based society needs an **innovation-friendly** climate.

➔ **How can we enable more breakthroughs and foster a culture of creativity?**

Pre-Conditions of Creative Cultures

Communication

Diversity

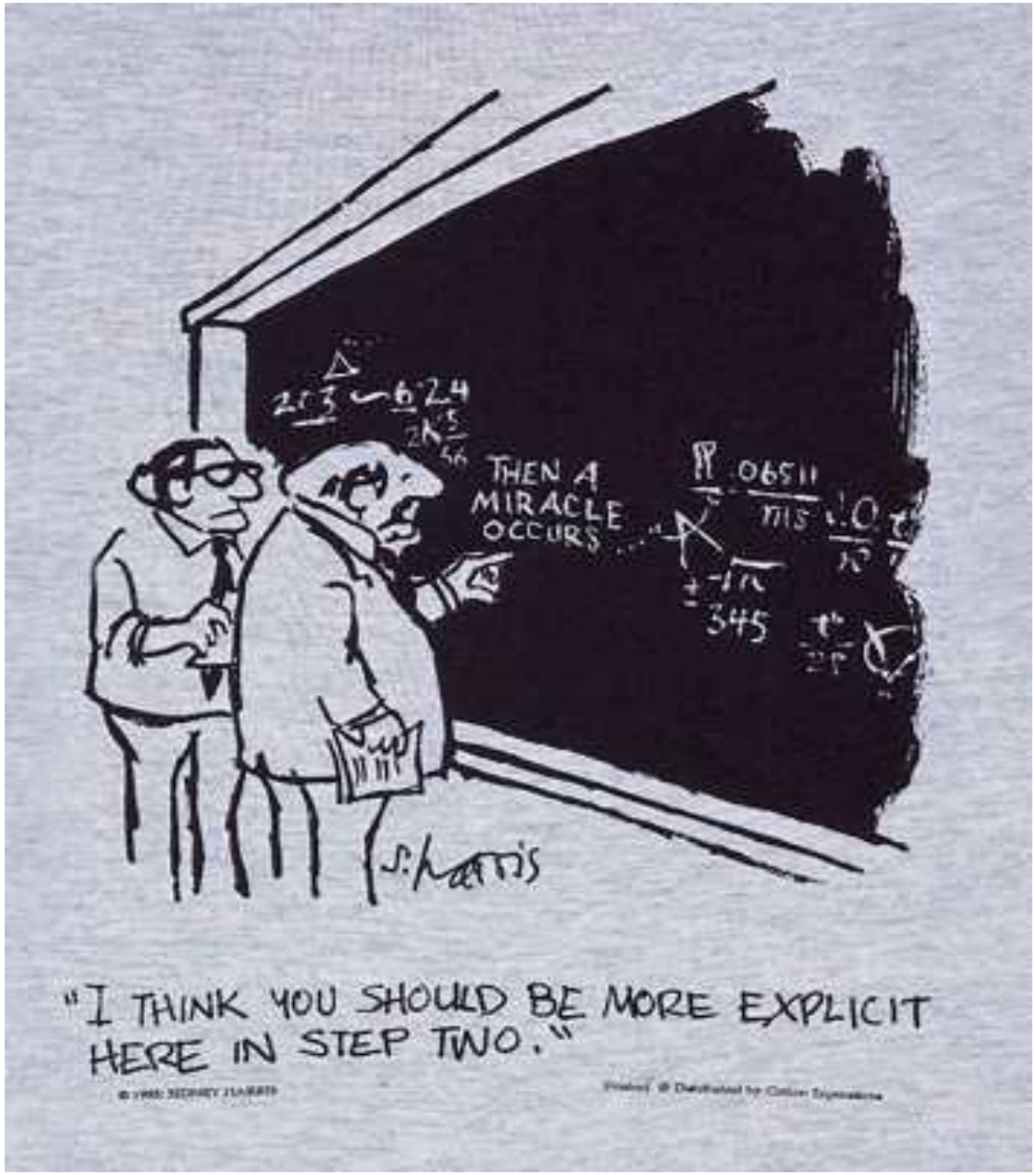
Serendipity

Innovativeness

Competence

Courage

Persistency/Perseverance


THEN A MIRACLE OCCURS
"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

Finding the Truth

„***I do not merely regard the sum of positive insights that I was able to gather from what you told me – what I value even more is the general direction that my train of thoughts took under your guidance.***
Truth in itself is precious, but even more precious is the skill to find it."

Alexander v. Humboldt in a letter to his mentor Georg Christoph Lichtenberg

Fostering Success in Doctoral Programmes

Recommendations by the Council of Graduate Schools:

- Collect institutionally comparable benchmarking data on completion rates and attrition patterns,
- Foster dialogue within universities about possible weaknesses or anomalies,
- Consider the impact of “time limits” (structure vs. creativity, fairness vs. contextual nuance),
- Progress tracking (paper, online, signed off by all),
- Frontload research experience; committee must have a stronger role,
- Partner with employers,
- Address full range of roles and responsibilities, not just research.

Three Imperatives for the Future of the Doctorate

1. *"Faculty members have a responsibility to deliberate about the purpose of the doctoral program, in order to better guide students' transition from experience to expertise.*
2. *Students must be responsible, active, intentional agents in their own learning.*
3. *Real improvement must be a joint venture in which faculty and students are genuine partners."*

The Formation of Scholars: Rethinking Doctoral Education for the 21st Century (2008).

Risks and Opportunities

- Differentiation of curricula and of degrees
- Professional orientation of doctorates
- Internationalisation
- Levels of Support
- Collaboration between various institutions
- Adjustment of timescales
- PhD Committees and mentoring.

„I cannot say whether things will get better if we change them; what I can say, however, is they must change if they are to get well.“

„Ich kann freilich nicht sagen, ob es besser werden wird, wenn es anders wird; aber so viel kann ich sagen, es muss anders werden, wenn es gut werden soll.“

Georg Christoph Lichtenberg

IUA
Irish Universities Association
Cumann Ollscoileanna Éireann

National University of Ireland, Galway
UCD
DCU
UCC
NUI MAYNOOTH
University of Limerick
University of Dublin Trinity College

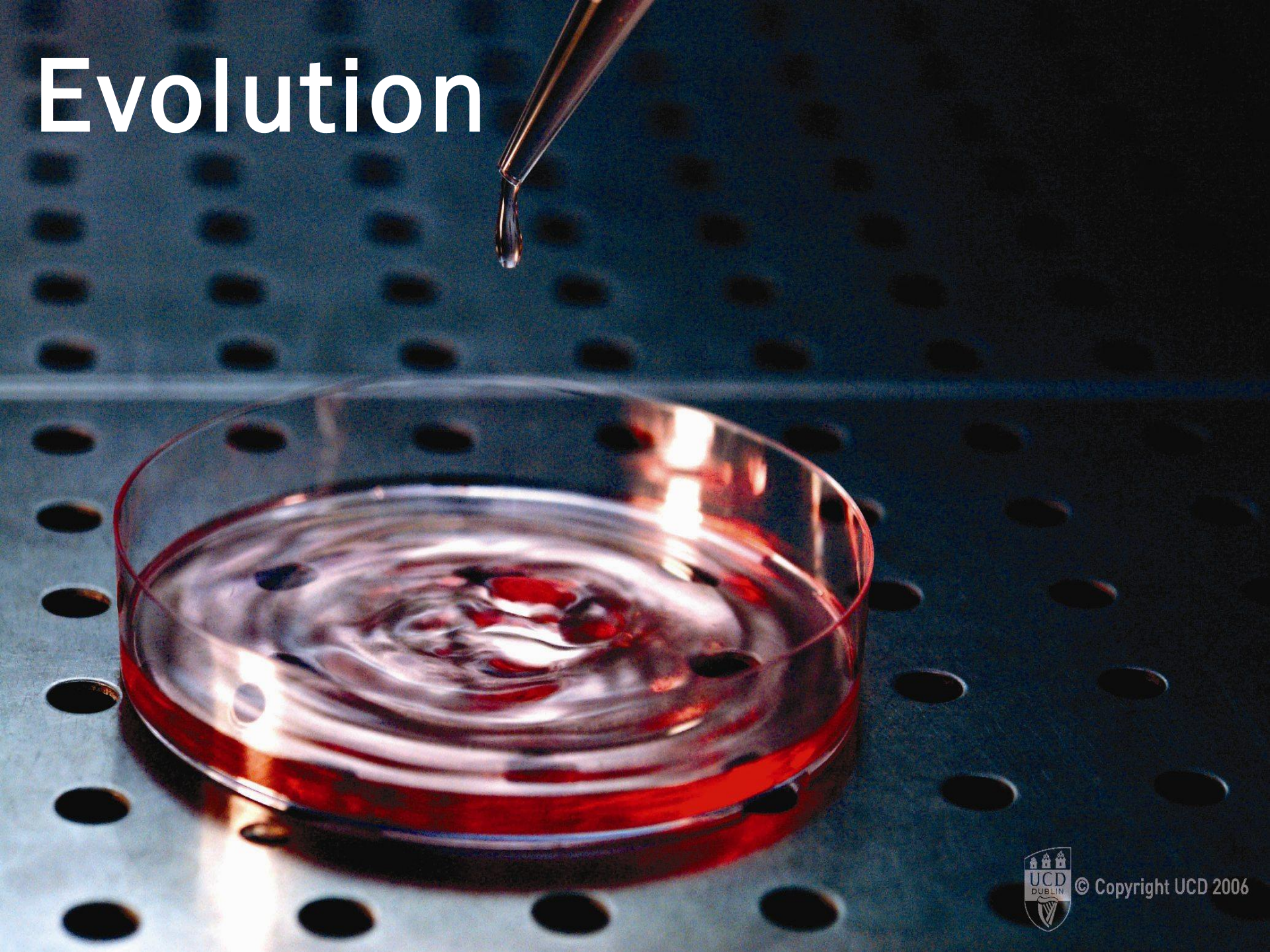
Future of the Doctorate

EUA CDE Conference

Berlin 4-5 June 2010

Dr Conor O'Carroll

Evolution



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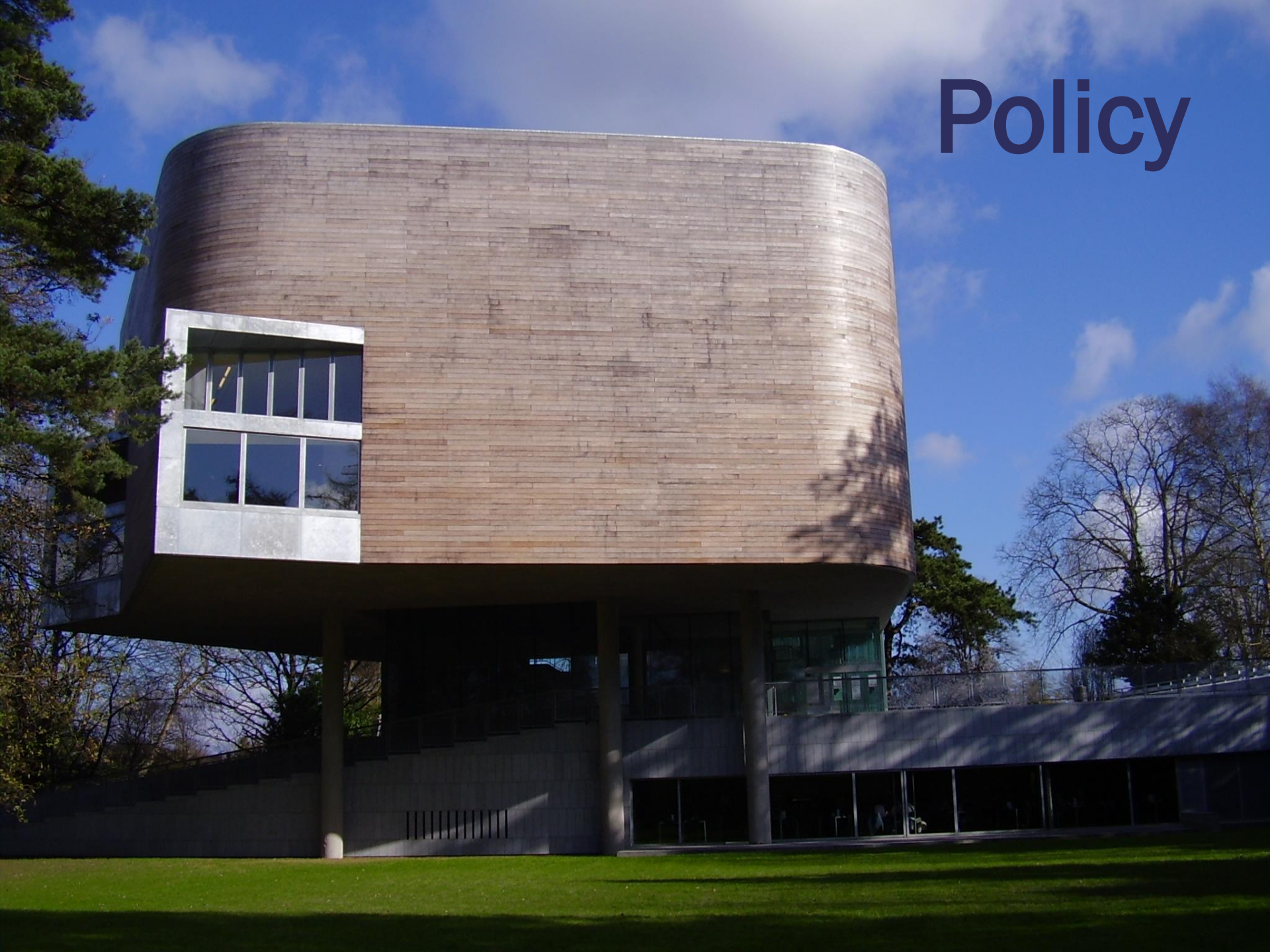
Policy

Assessing Change

UCD Geary Institute
Research, Analysis, Evidence

Irish Universities Study

First comprehensive study to measure 3rd, 4th level students and researchers' experience and outcomes in the seven universities

Develop a leading edge, web based survey system for policy development

Linked to the introduction of 4th Level Ireland

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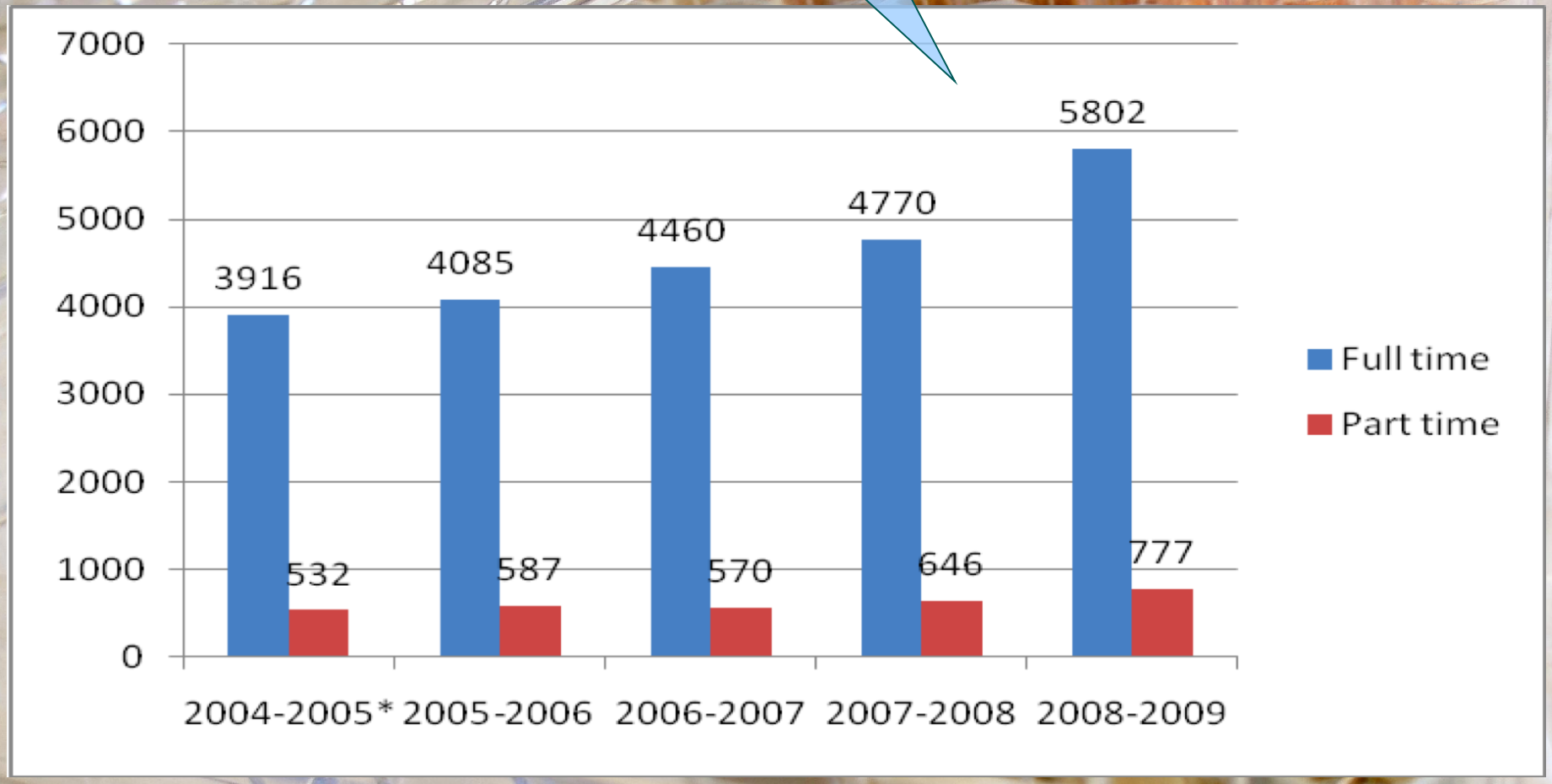
Research, Analysis, Evidence

Number of PhD's



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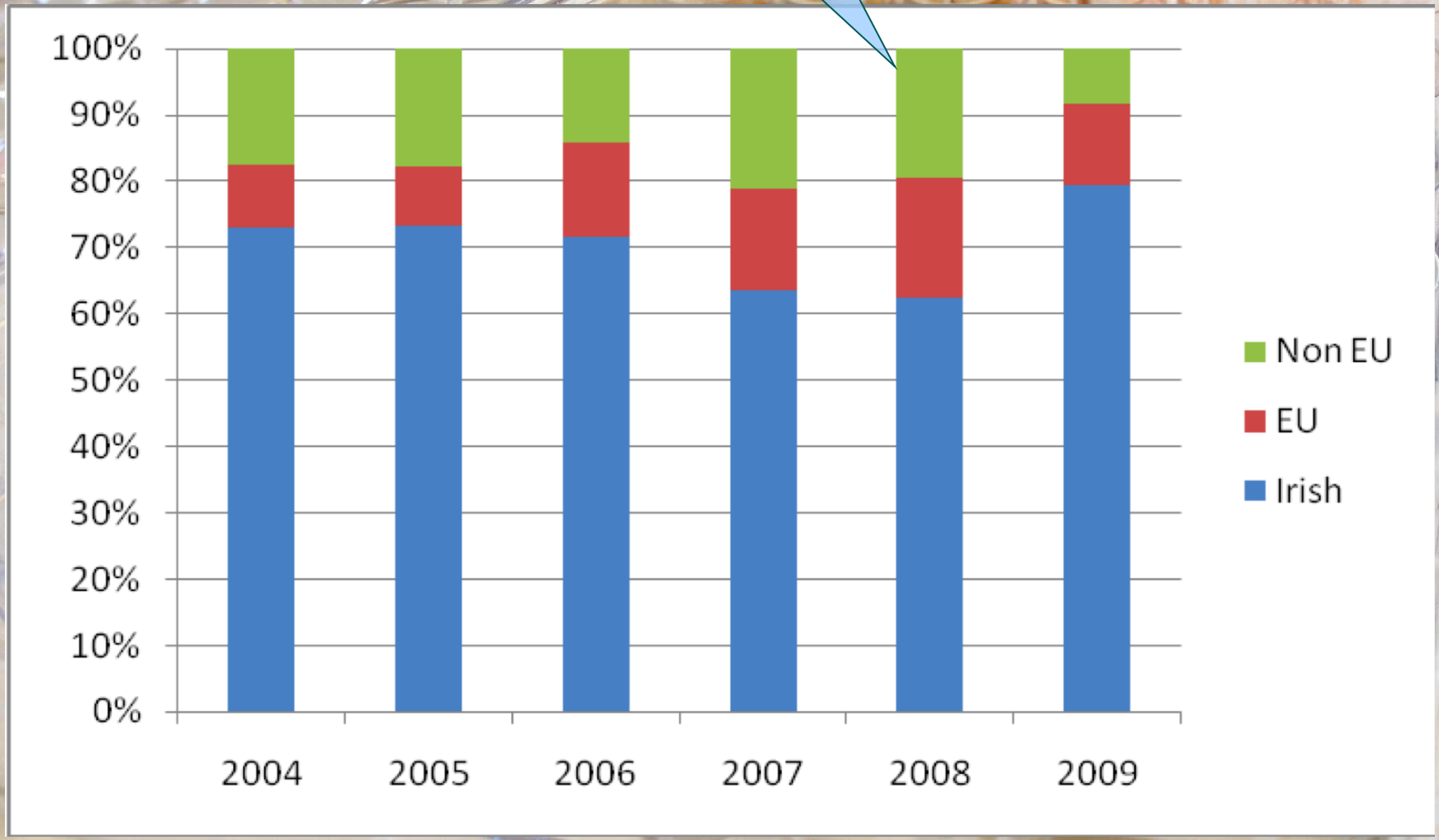
Research, Analysis, Evidence

Demographics



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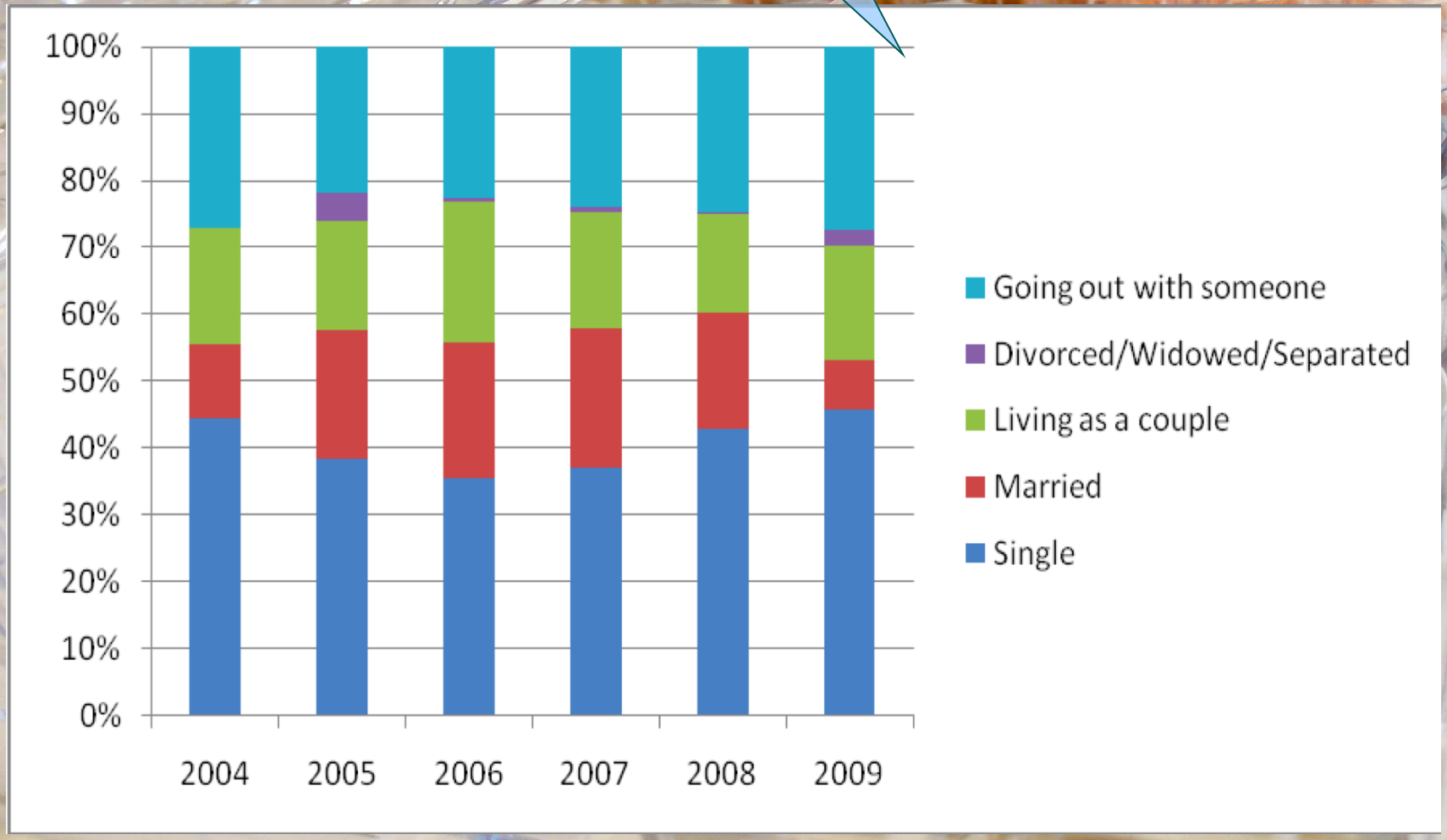
Demographics



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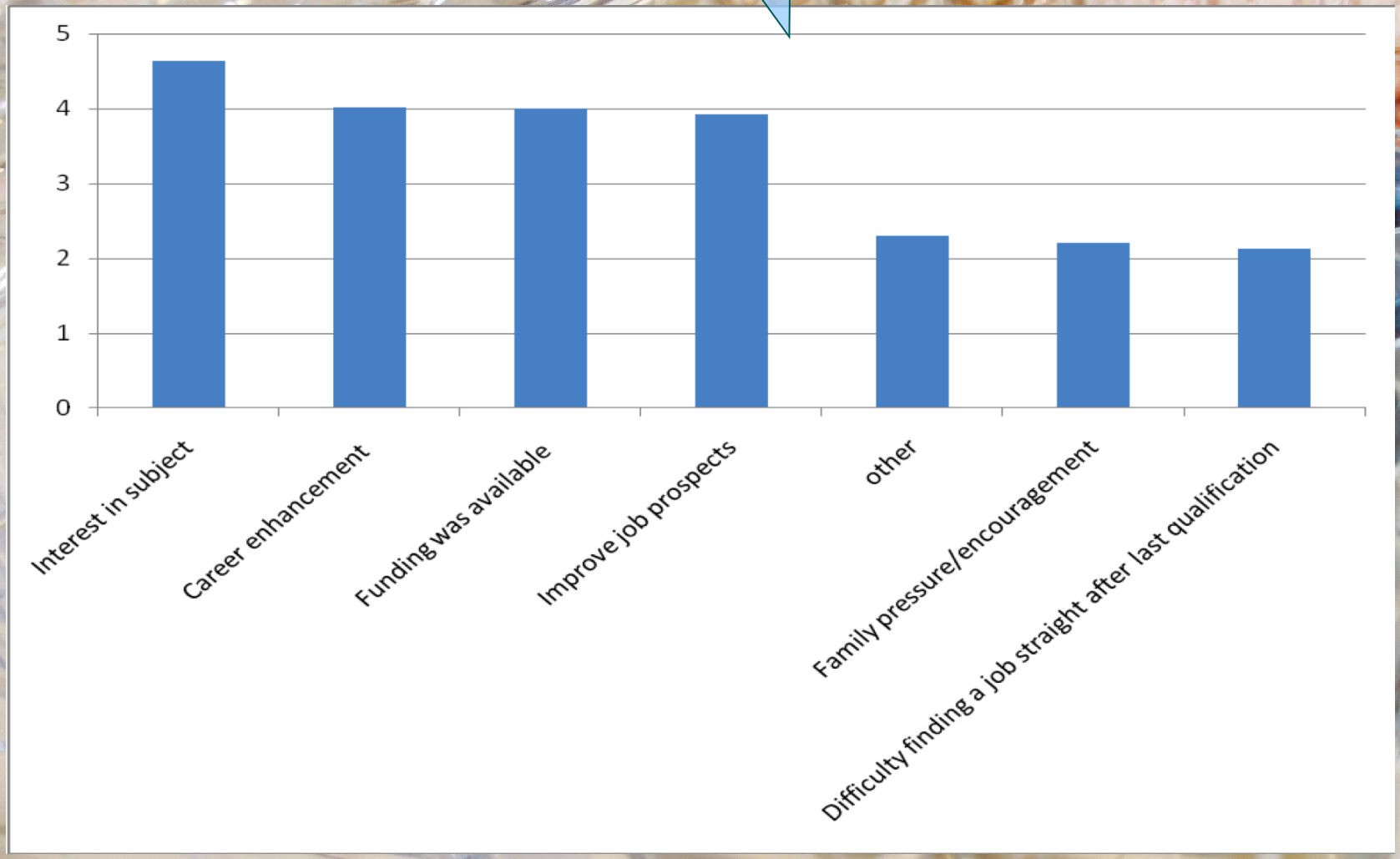
Motivation



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PhD Experience

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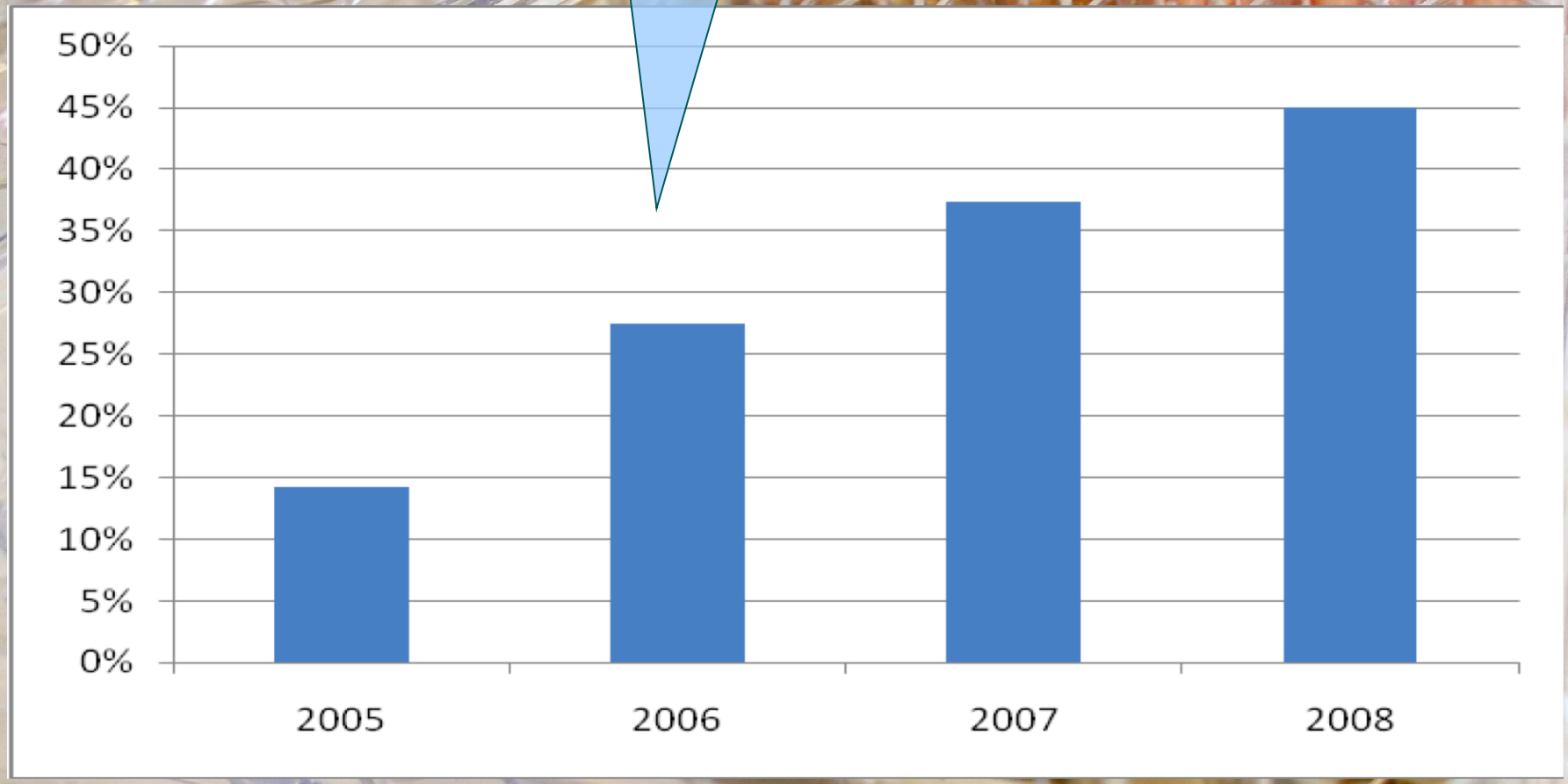
On structured programme (%)



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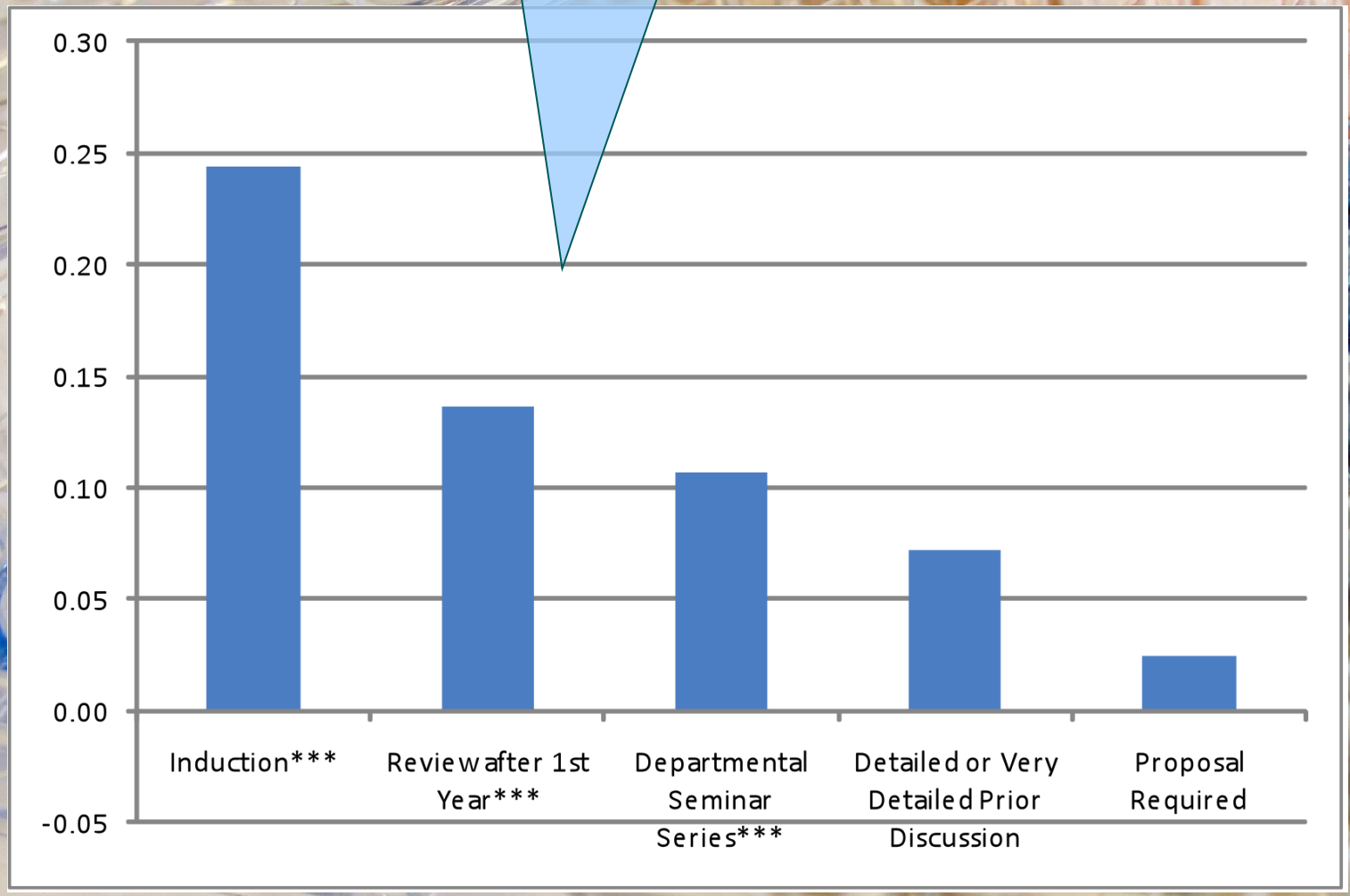
Structured Programme - input



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Structured Programme - input

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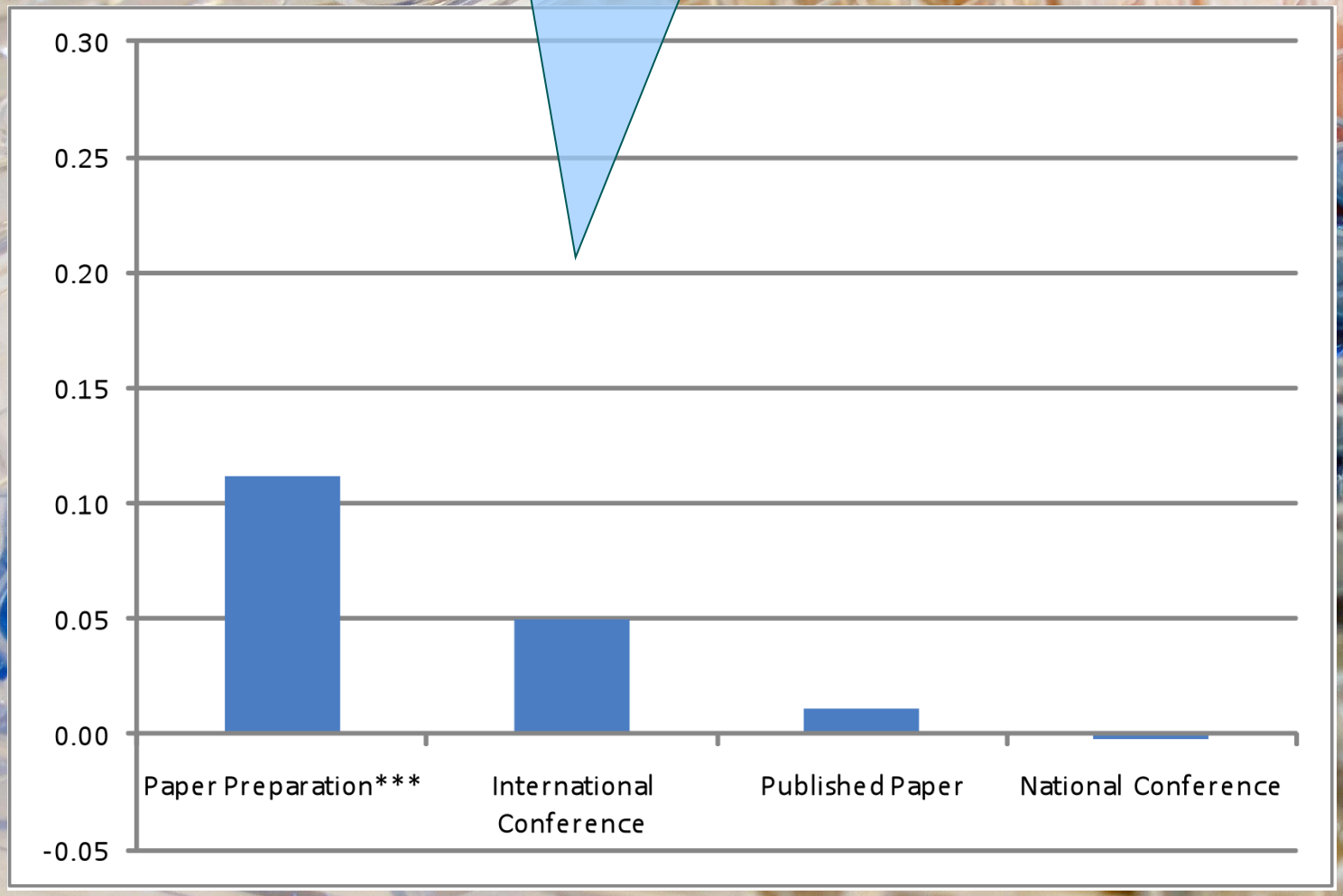
Structured Programme - output



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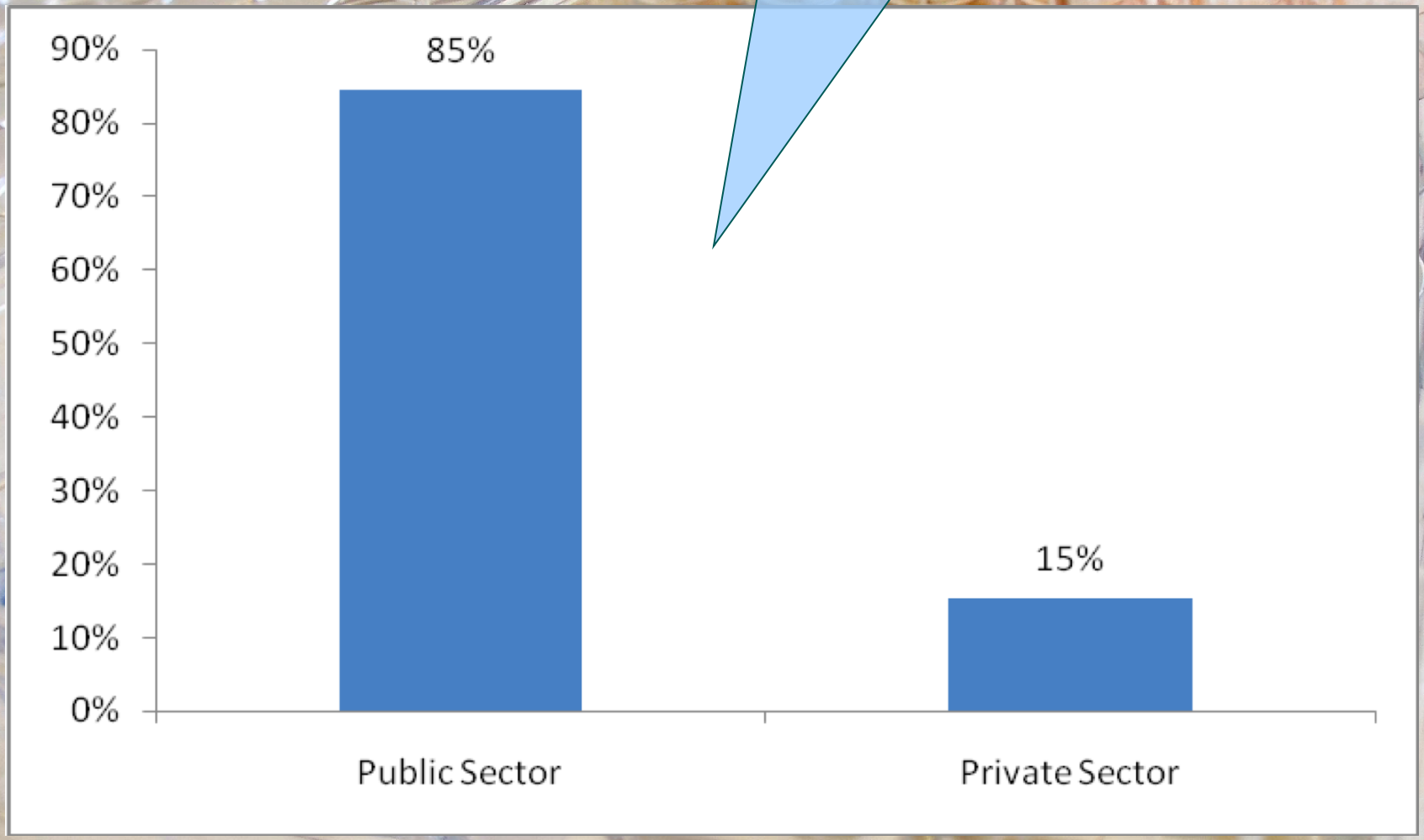
Career Expectations



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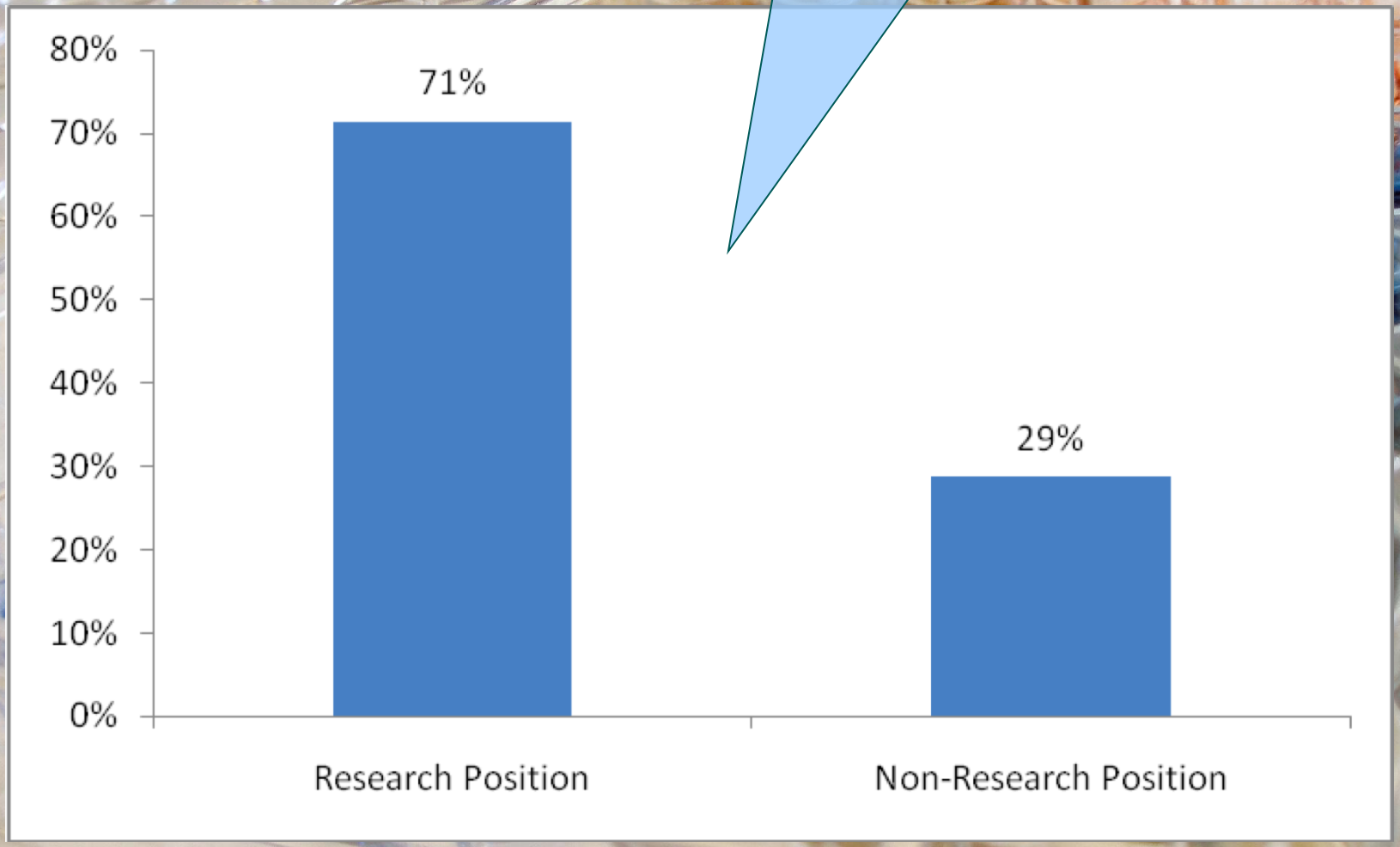
Career Expectations




Influences

Quo Vadis

EUA
European University Association

The 2010 EUA-CDE agenda

The Salzburg II initiative

EUA Council for Doctoral Education, 2008

the first Europe-wide platform to develop and advance doctoral education and to enhance its visibility at international level

- Encouraging and supporting the development of institutional policies
- Promoting cooperation and exchange of good practices
- Identifying and monitoring the trends in doctoral education
- Improving the availability of data and information
- Providing policy advice to EUA Board and Council

More than 180 members today

contact persons in charge of doctoral policies at a top level

The Salzburg principles, 2005

- arose from an intensive bottom-up work from European universities developed under the auspices of EUA
- not **a** European model : a common goal, different routes
- endorsed by hundreds of universities as well as by the European Council of Ministers in charge of Higher Education
- attract global interest

European universities at the forefront of the reform of doctoral education

- The implementation of Salzburg principles in very diverse contexts:
  - demonstrates their strength, accuracy and operability
  - accumulates a considerable amount of original experiences and innovative practices which enriches this new vision
  - points out some misunderstandings and some concerns

- It is time to assess Salzburg principles at the light of the on going reform process:

The Salzburg II initiative

The doctorate is based on research

The Salzburg principles state the specificity of the doctoral level as developing the capability of creative thinking and intellectual autonomy through the practice of an original research project

An increasing need for theses competences in all sectors of the knowledge-based society, in and beyond R&D

Doctorate is *by nature* different form the first and second cycles of the Bologna process

As a consequence, the format and assessment tools developed for cohorts of students at two first cycles (taught elements, credit systems) are not appropriate for the individual journey of doctoral education

Structuring doctoral education

- **An institutional DE policy based on the research strategy,** with clear balance of responsibilities
- **Ensuring** a critical mass and critical diversity of research environment, central to successful doctoral education
- **Achieving** flexible structures to develop creativity and autonomy, to meet individual needs, and build responsibility capabilities
- **Diversity is a richness**

Creating the appropriate environment for personal development

- **Recognition** of doctoral candidates as early stage researchers, with commensurate rights and duties
- **Recruitment** of candidates and selection of doctoral research projects through open, fair and transparent procedures
- A culture of **supervision** as a collective, transparent and inclusive process, with professional development of supervisors
- **Provision** of knowledge and skills as to expose early stage researchers to a wide range of opportunities to ensure personal and professional development: cannot be mastered by only taking courses, and ECTS are not appropriate for individual assessment of personal development
- The **international** agenda should be a key part of any research environment: the culture of jointness

The Salzburg II initiative 2010

These are essential conditions to prepare

Early stage Researchers,

who are the workforce of today's research institutions,

to become

the academics and researchers, the top managers,
the policy makers and business leaders

of tomorrow knowledge-based society

Clearing the obstacles

- **Adequate sustainable funding**
  - full cost funding supporting structured doctoral programmes as inclusive research communities, career development
- **Regulatory flexibility**
  - at the institutional and national levels to make possible the implementation of salzburg principles
  - at the national and European levels to articulate and develop mobility and jointness culture
- **Accountability based on self evaluation**
  - transparent and effective self-evaluation (data collection systems)
  - research-based assessment methods rather than QA of the teaching component as in the first and second cycles

The Salzburg II initiative 2010

An intense activity from Lausanne to Berlin

CDE Workshops:

- supervision, London, January 2009
- structuring DE, Zagreb, December 2009
- careers, Ghent, 18-19 March 2010
- mobility, Budapest, winter 2010

CDE Working groups:

- quality/accountability, Aarhus, 26 January 2010
- outcomes and credits, Lisboa, 22 February 2010
- recruitment/admission, Bonn, 25 February 2010
- internationalisation, Roma, 5 March 2010

The Salzburg II initiative 2010

Today : discussion of discussion papers in parallel WG

WG1: supervision

WG2: careers

WG3: international collaborations

WG4: quality/accountability

WG5: recruitment/admission

WG6: structure/critical mass

WG7: credits/outcomes

Tomorrow : plenary discussion and synthesis

Fall: EUA declaration

EUROPEAN COMMISSION
Community research

The People Programme in FP7
~ €4.75 Billion

Initial training (~40% budget)
Initial Training Networks (ITN)

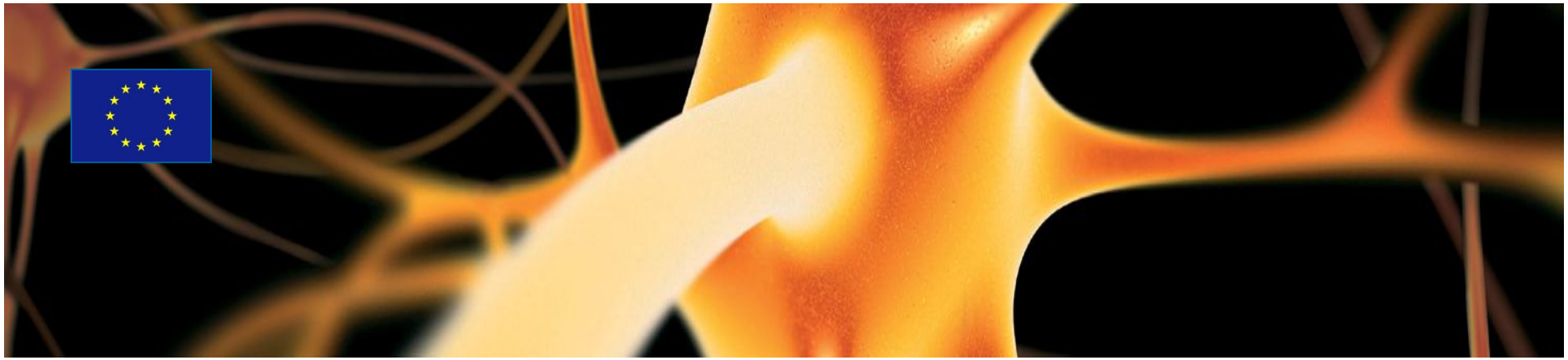
ESRs

Life-long training and career development (~25-30% budget)
Intra-European Fellowships (IEF)/ European Reintegration Grants (ERG)
Co-funding of regional/national/international programmes (COFUND);
International Reintegration grants (IRG)

Industry dimension (~5-10% budget)
Industry-Academia Partnerships and Pathways (IAPP)

World fellowship (~25% budget)
International Outgoing & Incoming Fellowships (IOF & IIF); International Staff Exchange Scheme (IRSES)

Policy support actions (~1% budget)
Mobility and career enhancement actions



People Programme: Marie Curie Actions

EUA-CDE
Berlin,
4-5 June 2010

Vanessa Debiais-Sainton
European Commission
DG Education & Culture

EUROPEAN COMMISSION
Community research

FP7 overview (2007-2013)

FP7 breakdown (€ million)

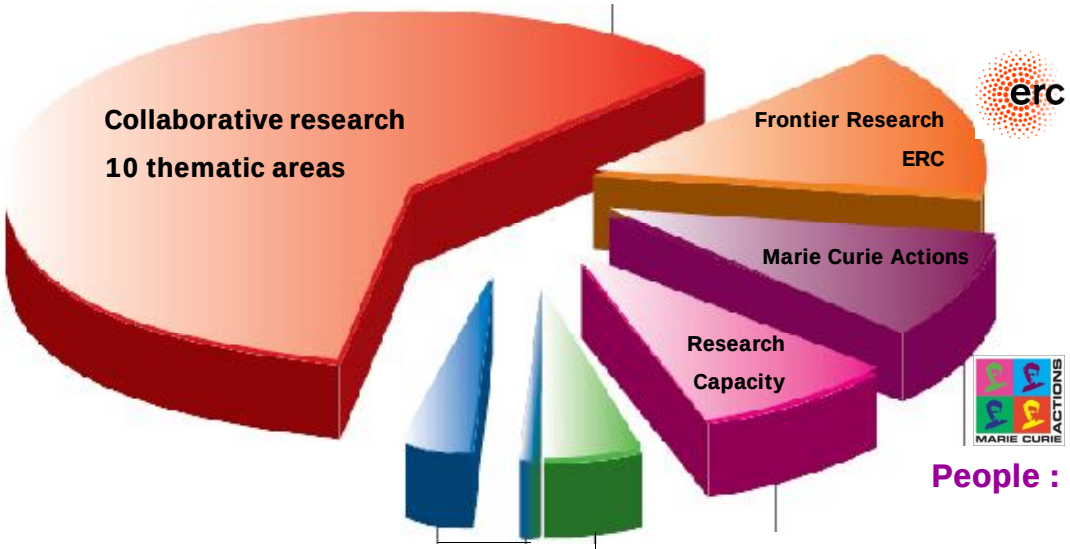
Total EC budget : M€ 50 521

Cooperation :

M€ 32 413

Ideas :

M€ 7510



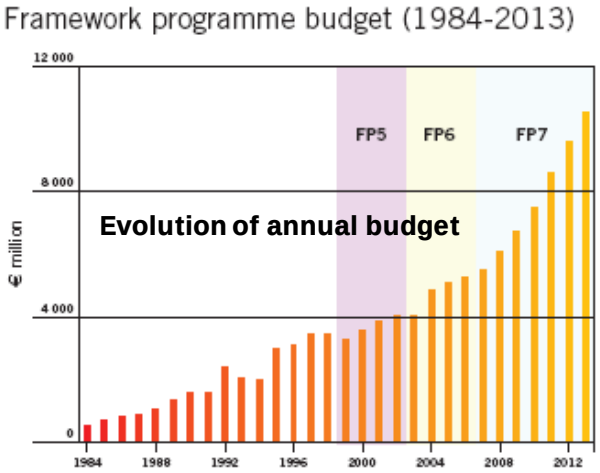
People : M€ 4750

Capacities : M€ 4097

JRC : M€ 1751

Euratom : M€ 2751

Nuclear research



MARIE CURIE ACTIONS

SEVENTH FRAMEWORK PROGRAMME

EUROPEAN COMMISSION
Community research

Initial Training Networks (ITN)
€1.9 billion in FP7

Objectives:

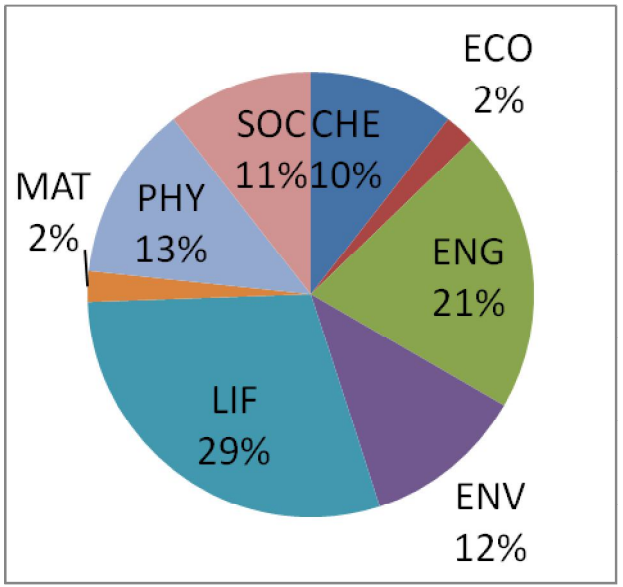
- Strengthen and structure Initial Training of Researchers
- Foster researcher's mobility (geographical and intersectoral)
- Attract young people to enter researcher profession
- Enhance employability & career prospects by broad skills development (matching public and private market needs)
- Employment contracts with full social rights and attractive salaries (including mobility allowances)
- Directed at early-stage researchers starting their career in both public and private sectors

MARIE CURIE ACTIONS

SEVENTH FRAMEWORK PROGRAMME

EUROPEAN COMMISSION
Community research

Initial Training Networks (ITN)
€1.9 billion in FP7



Main features:

- International, interdisciplinary, intersectoral network of research multi-stakeholders
- Joint Research Training Programme:
  (i) training through top-quality research
  (ii) key transferable skills modules:
  Entrepreneurship, IPR, ethics, patenting…
  (iii) exposure to both public and private sectors
- Mutual recognition of the quality of the training
- Open to all domains of research
- Open to all countries and mobile researchers

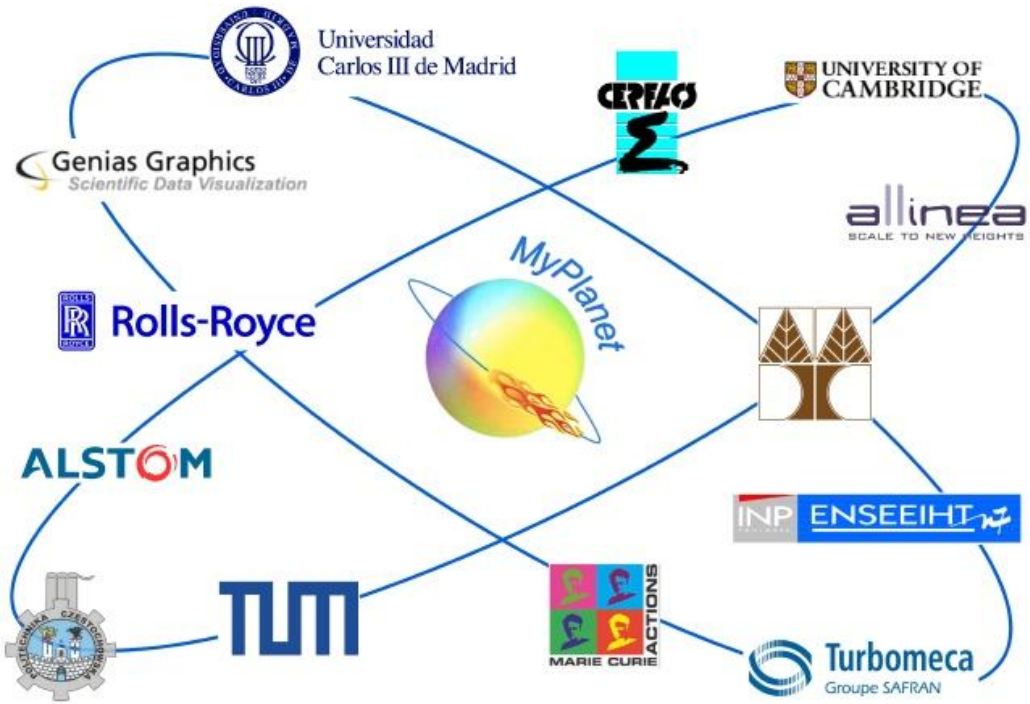
⇒ **~10 000 highly skilled early-stage researchers in FP7**

MARIE CURIE ACTIONS
SEVENTH FRAMEWORK PROGRAMME

EUROPEAN COMMISSION
Community research

Initial Training Network (ITN)
MyPlanet

- Budget: 3M€
- Project Duration: 4 years
- University-Business Consortium:
  7 full partners, 5 associated
  FR, DE, ES, UK, CY, PL, CH



- 12 ESRs (3 years)
  and 4 ERs (1-2 years)
- Objective:
  "Train highly skilled researchers in combustion technologies and high-performance computing techniques in the context of growing pollution and global Earth Warming"
- Network meetings every 6 months
- Cooperation through workshops and secondments
- Modules on transferable skills

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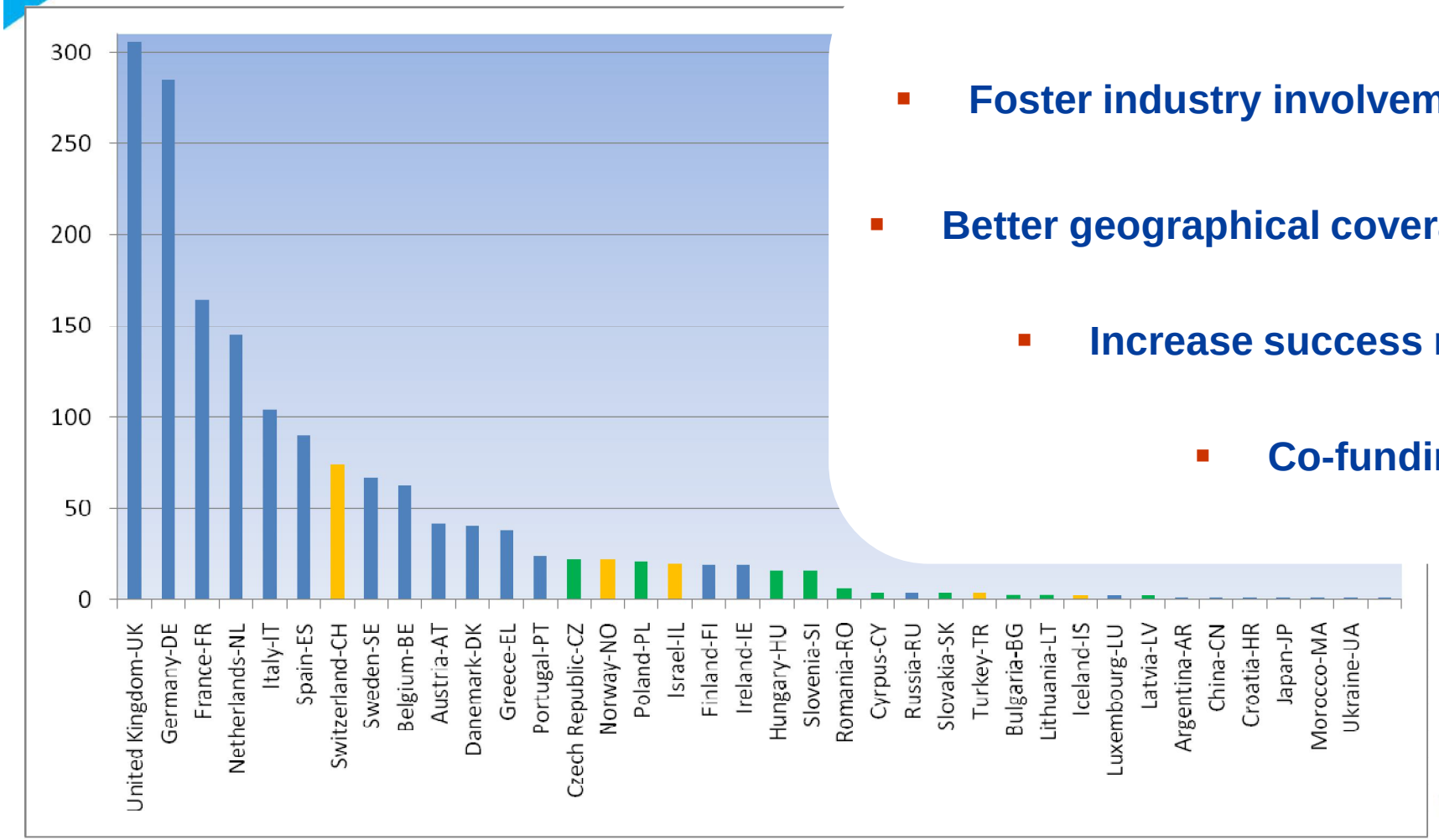
SEVENTH FRAMEWORK PROGRAMME

EUROPEAN COMMISSION
Community research

Initial Training Networks (ITN)

Funded participants in calls 2007 and 2008



Future key challenges:

- Foster industry involvement
- Better geographical coverage
- Increase success rate
- Co-funding?

SEVENTH FRAMEWORK PROGRAMME

EUROPEAN COMMISSION
Community research

For more information

Marie Curie website:

http://ec.europa.eu/research/mariecurieactions

Cordis FP7 website:

http://cordis.europa.eu/fp7/

Euraxess – Researchers in motion

http://ec.europa.eu/euraxess/

MARIE CURIE ACTIONS

SEVENTH FRAMEWORK PROGRAMME

EM for Doctorates - Key words (1)

Objectives

- Enhance the quality and attractiveness of European HE through international co-operation
- Improve the development of human resources
- Promote intercultural dialogue between EU and non EU institutions / individuals
- Promote Europe as a centre of excellence in learning around the world

ERASMUS MUNDUS

EM for Doctorates - Key words (2)

Two different doctorate scholarship schemes

(for EU and non-EU doctoral candidates).

- **Action 1 B : awarded in the context of preselected Erasmus Mundus Joint Doctoral Programmes (EMJDs)**
  - **3 years cholarships**
- **Action 2 : awarded in the context of (bi- or) multilateral cooperation between Eur and non-Eur HEIs, for the participation in pre-existing doctoral programmes**
  - **scholarship covering all (up to 3 years) or part of the PhD**

ERASMUS MUNDUS

EM for Doctorates - Key words (3)

An Erasmus Mundus Action 1 B Joint Doctorate Programme is…

*... an **integrated** doctoral programme, of **3 or 4 years** duration, delivered and managed by a **consortium** of EU (and, if relevant, non EU) HEIs/research organisations that includes **mandatory training and mobility components** and leads to the award of a **fully recognised joint (**/double, multiple**) degree.***

When selected, 8 to 10 fellowships are funded for 5 consecutive cohorts of doctoral candidates (40 to 50 fellowships par consortium over a five years period)

ERASMUS MUNDUS

EM for Doctorates - Key Figures

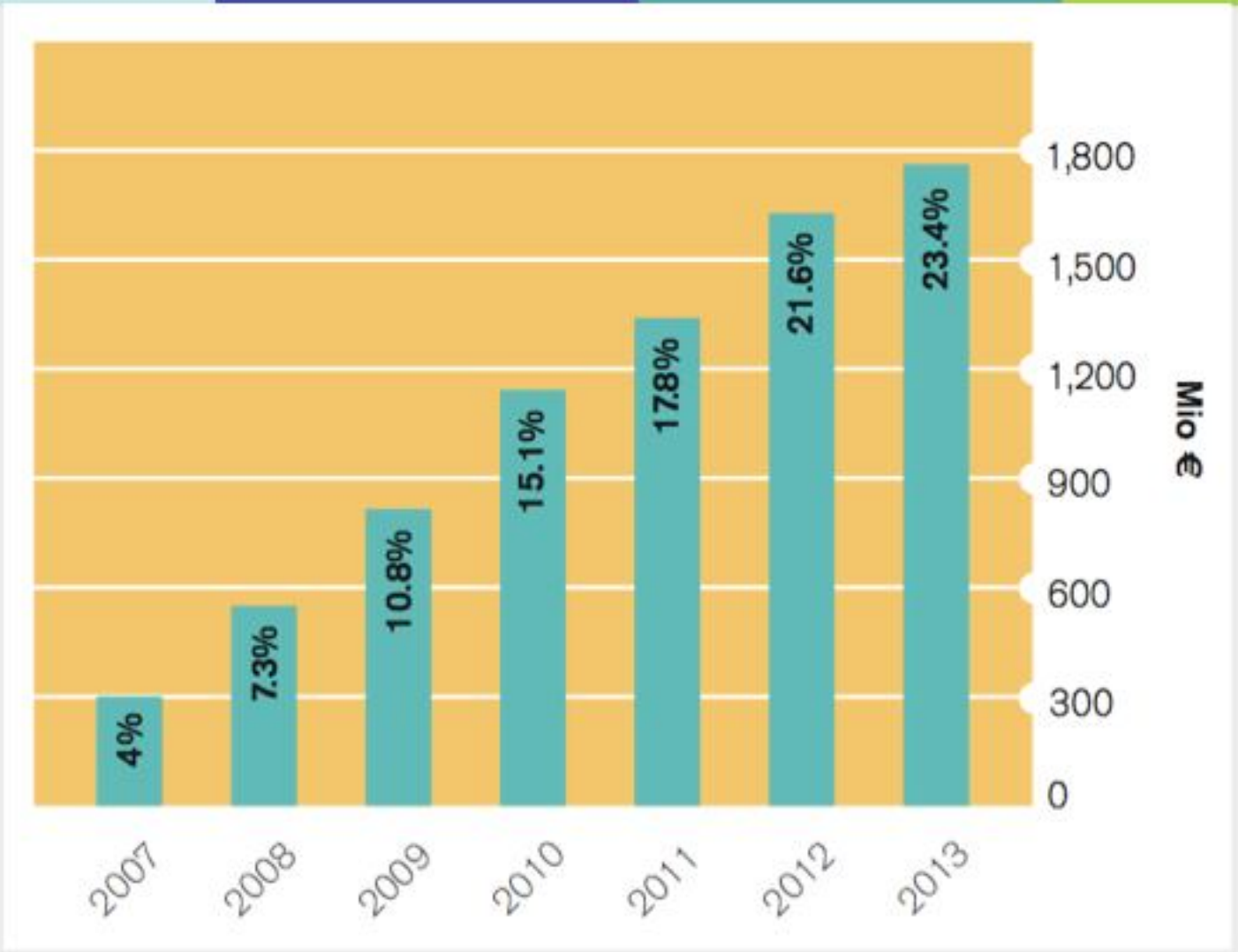
- **13 Action 1 EMJDs in place**
  - Involving 91 HEIs / research centres (representing 19 different countries – incl. 7 non EU -) and 84 “associates” (24 countries - incl. 13 non EU)
  - Variety of disciplines (maths, law, pol. sc., environment, neuroscience, energy, astrophysics, literature, etc.)
  - 130 first EMJD fellowship holders will start their research project in the next academic year.
  - 35 EMJDs and 800 doct. fellowships by 2013
- **78 Action 2 mobility schemes in place**
  - More than 750 HEIs from all over the world
  - 13,500 mobility flows out of which 3000 (22%) doct. candidates and 11200 (9%) postdoc.

ERASMUS MUNDUS

The ERC keeps its strategy simple, flexible and focused!

- **“Starting Grant”: Support young(*) researchers** (*) 2-10 yrs post-PhD
- **“Advanced Grant”: Support leading(*) scientists** (*) in past 10 yrs
- **Promote excellence irrespective of nationality, age, or field**
- **Trust the dynamic of science**
  - ➔ **The ERC funds the individual PI (and his/her individual team)**
  - ➔ **Grants are portable**
- **Encourage interdisciplinarity by mainstreaming interdisciplinary projects**

ERC budget increases by € 250 M€ / year



ERC Grant schemes

Two complementary funding schemes

European Research Council

erc

ERC Starting Grant (StG): attract & retain the next generation of independent research leaders - **up to € 2.0 Mio for 5 years**

Support researchers at the start of their independent research career and **establishing or consolidating their own independent research team** (or research programme)

Provide a structure for **transition** from working under a supervisor to an independent research leader

ERC Advanced Grant (AdG): attract & reward established independent research leaders - **up to € 3.5 Mio for 5 years**

↳Designed to **support excellent investigator-initiated frontier research projects** by established independent research leaders

↳Targeting researchers who have already established their independence as team leaders and are **exceptional leaders in terms of significance of their research achievements** (in the last 10 years)

Facts and estimations

- **Over 1000 grants already signed**
- **~60-70% of eligible costs towards personnel**
- **1-3 PhD students involved per project (on the basis of 1st periodic financial reports)**

EUROPEAN COMMISSION
Community research

Facts and estimations

- **Over 1000 grants already signed**
- **~60-70% of eligible costs towards personnel**
- **1-3 PhD students involved per project (on the basis of 1st periodic financial reports)**

MARIE CURIE ACTIONS

SEVENTH FRAMEWORK PROGRAMME

ERC Starting & Advanced grant calls 2007 – 2010

Comparison of the TOP European

no. grants	ERC StG 2007
17	CNRS
9	Max-Planck-Society
8	University of Cambridge
7	Technion Israel Institute of Technology
6	Imperial College London
6	Hebrew Univ Jerusalem
6	Consiglio Nazionale delle Ricerche
5	Weizmann Institute of Science
5	Univ Oxford
5	University College London
5	Free Univ Amsterdam
4	Consejo Superior de Investigaciones Cientificas
4	Univ Leuven
4	Univ Heidelberg
4	IN National de la Santé et de la Recherche Médicale
3	Royal Netherlands Academy of Arts and Sciences
3	Univ Tel Aviv
3	Univ Stockholm
3	Univ Amsterdam
3	Univ Aarhus
3	Univ Leiden
3	Medical Research Council
3	Fundació Privada Centre de Regulació Genòmica
3	Spanish National Cancer Centre

1st call

no. grants	ERC AdG 2008
11	EPF Lausanne
10	Centre National de Recherche Scientifique
8	Weizmann Institute of Science
7	Univ of Oxford
7	Imperial College London
6	ETH Zürich
5	Univ of Edinburgh
5	Univ of Cambridge
5	Univ Helsinki
4	Univ Genève
4	University College London
3	Helsinki Univ of Technology
3	Univ of Tel Aviv
3	Univ of Nijmwegen
3	Max-Planck-Society
3	IN de Recherche en Informatique et en Automatique
3	Ecole des hautes études en sciences sociales
3	Commissariat à l´énergie atomique
3	Hebrew Univ of Jerusalem
3	Univ of Utrecht
3	Politecnico di Milano
3	Univ of Lund
3	Karolinska Institutet

2nd call

no. grants	ERC StG 2009
7	CNRS
7	EPF Lausanne
7	Max-Planck-Society
6	Univ Leuven
6	Univ of Oxford
5	Hebrew Univ Jerusalem
5	Uni Gent
4	Univ of Cambridge
4	University College London
4	Uni Bristol
3	Commissariat à l´énergie atomique
3	ETH Zürich
3	Imperial College London
3	IN National de la Santé et de la Recherche Médicale
3	Uni Munich
3	Helsinki Univ of Technology
3	Univ of Utrecht
3	Weizmann Institute of Science

3rd call

no. grants	ERC AdG 2009
9	Centre National de Recherche Scientifique
9	ETH Zürich
9	Univ of Cambridge
7	University College London
7	Max-Planck-Society
6	University of Zürich
5	Univ of Oxford
5	Hebrew Univ of Jerusalem
5	Uni Bristol
4	EPF Lausanne
4	Weizmann Institute of Science
4	Imperial College London
4	IN National de la Santé et de la Recherche Médicale
4	Uni Munich
3	Univ of Edinburgh
3	Univ Genève
3	Univ Amsterdam
3	Univ Bergen
3	Univ Uppsala
3	Cancer Research UK

4th call

Plenary Session IV: The Salzburg principles in perspectives

Karen P. DePauw, Ph.D.
Vice President & Dean for Graduate Education

Council on Doctoral Education annual meeting
June 5, 2010 Berlin, Germany

Existing U.S. context

- Research collaboration for faculty and graduate students
- International experiences for graduate students included in their graduate degree; Study Abroad
- Formal degree programs with international partner universities
- Post doctoral appointments at international partner institutions
- Teaching experiences at international partner university for doctoral students
- Connections with international alumni

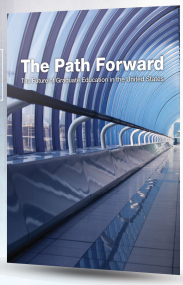
Recent challenges

- Trends
  - International enrollments & admissions
  - PhDs earned
- Immigration regulations
- European higher education & implications for U.S. graduate education
- American competitiveness
  - Commission on the Future of Graduate Education

Implications of Bologna Process

- Increased competition & impact upon programs with high international enrollment
- 3-year undergraduate degree challenges U.S. undergraduate degree equivalency
- European doctoral degrees with strong research focus & decreased time to degree
- Instruction in English & attractiveness of European PhD degree
- Mobility of U.S. students?

Materials available at:
www.fgereport.org



Commission on the Future of Graduate Education in the United States

Why this Commission?

The key assumption is that U.S. competitiveness and future prosperity depend critically on our capacity to produce top-notch doctoral and master's degree holders prepared to address the challenges and opportunities of the 21st century

Who served on the Commission?

Corporate Leaders
- Thomas Connelly, DuPont
- Roger Ferguson, TIAA-CREF
- Stanley Litow, IBM
- Richard Parsons, Bank of America
- Ronald Townsend, Battelle
- John Seely Brown, Xerox

University Leaders
- Gene Block, UCLA
- Ronald Mason, Jackson State University
- John Wiley, University of Wisconsin
- Scott Bass, American University
- Suzanne Ortega (Vice-Chair), University of New Mexico

University Leaders (cont'd)
- Karen DePauw, Virginia Polytechnic Institute & State University
- Jeffery Gibeling, University of California Davis
- Patrick Osmer, The Ohio State University
- William Russel (Chair), Princeton University
- Liora Schmelkin, Hofstra University
- Susan Stites-Doe, College at Brockport, SUNY
- James Wimbush, Indiana University

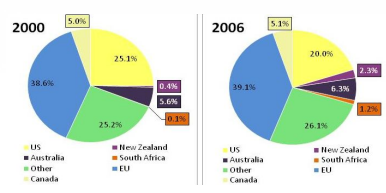
Ex Officio Members
- Kurt Landgraf, ETS
- Debra Stewart, CGS

Graduate Education as the Source for a Highly Skilled Workforce

- Career opportunities and national need
  - The knowledge-based economy of the 21st century increasingly requires the advanced knowledge and skills acquired in graduate school
  - Graduate education trains creative thinkers able to produce cutting-edge, interdisciplinary research
  - Number of jobs requiring a graduate degree to grow by 2.5 million by 2018: masters +18% PhD's +17%
- Student aspirations
  - 50% increase in enrollment since since early 1980s
  - # of doctoral degrees growing faster than population

International Trends

- Shrinking US share of international student market

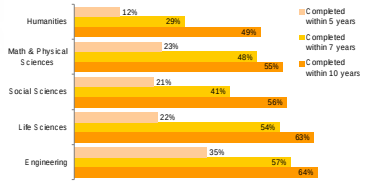


International Trends

- **Other countries** recognize graduate education and human capital development as engines of economic competitiveness
- **International students** have increasing options
  - China and India are investing substantially in graduate programs
  - Canada, Australia, and others are more welcoming to internationals
  - International students educated in the US increasingly find viable career options in their home countries
- Europe and China now produce **more doctorates** in the sciences and engineering than the U.S.

Area of Vulnerability

- **The current state of attrition and completion in U.S. doctoral programs wastes human and financial resources**



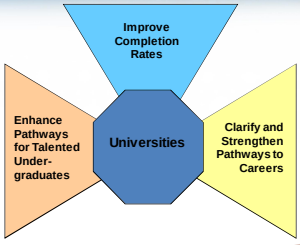
Area of Vulnerability

- **Many attractive career paths outside of the academy exist for Ph.D. graduates but are not readily visible**
- **Jobs within and outside of the academy increasingly demand skills beyond those imparted in traditional programs (e.g., the ability to acquire new skills, hybrid training, intercultural and international competence)**

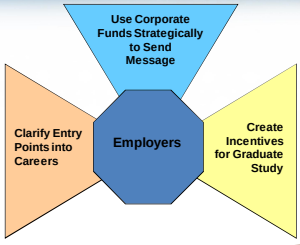
Area of Vulnerability

- **The significant debt at graduation among graduate students who borrow (e.g., master's $50k, doctorate $77k)**
- **The current structure of federal support for graduate students pursuing doctorates and research masters emphasizes research, not education, and does not support cost of education**

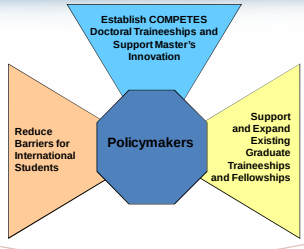
Recommendations for Universities



Recommendations for Employers



Recommendations for Policymakers



Salzburg Principles & doctoral reform in Europe

- Original research & employment needs
- Challenges and professional development
- Rich diversity of programs
- Early stage researchers and professionals
- Crucial role of supervision and assessment
- Critical mass of programs
- Duration of degree and completion
- Innovative structures
- Increasing mobility
- Ensuring appropriate funding

Reflections

- Research & scholarship are critical to doctoral education; incorporated into selected undergraduate and master's degrees in U.S.
- Understanding needs of employment market beyond academia important in future doctoral training; recommended in FGE Commission report
- Professional development opportunities to better prepare doctoral students for employment in higher education and non-academic careers is needed; recommended in FGE report

Reflections

- Recruiting and graduating talented students of diverse backgrounds important for U.S. higher education; priority in FGE report
- Diversity of doctoral programs important in European context; critical mass of programs important to training / education and research
- Development of innovative and collaborative (joint, dual) degrees important to new knowledge in U.S. and Europe
- Accreditation and governance challenges to new degrees

Reflections

- Interdisciplinary training becoming more important for innovation and creativity in doctoral education; FGE recommendation
- Mobility less of a challenge within U.S. context
- Increasing interest in collaborations among universities within and between U.S. and Europe
- Increasing interest in collaborations with non-academic partners; more needed; FGE recommendation

Reflections

- Mentoring a key component in progress of doctoral students; in U.S. "student" context continues; structured programs found beneficial; Graduate Schools play important role
- Time to degree in U.S. longer than Europe; especially with Bologna process. FGE recommendation
- Part time students, "returning" students, and life long learning more prominent in U.S.
- Sustained and appropriate funding critical and needed to doctoral education / training

Reflections

- Doctoral education is crucial to research and scholarship in the 21st century; doctoral training / education important for non academic careers
- Global graduate education initiatives:
  - "Study abroad",
  - Faculty & student exchanges
  - Preparing Future Professiorate: Global Perspectives (VT)
  - Joint, dual and collaborative degrees
  - Quality assessment and evaluation

Questions?

New Regulation for Doctoral Studies in Spain

Juan José Moreno Navarro
Director General for University Policy
Ministry of Education

dgu@educacion.es

EUA
European University Association

Third Annual Meeting of the
EUA Council for Doctoral Education,
Berlin June 2010

eu 2010.es

GOBIERNO DE ESPAÑA
MINISTERIO DE EDUCACIÓN

Main Goals

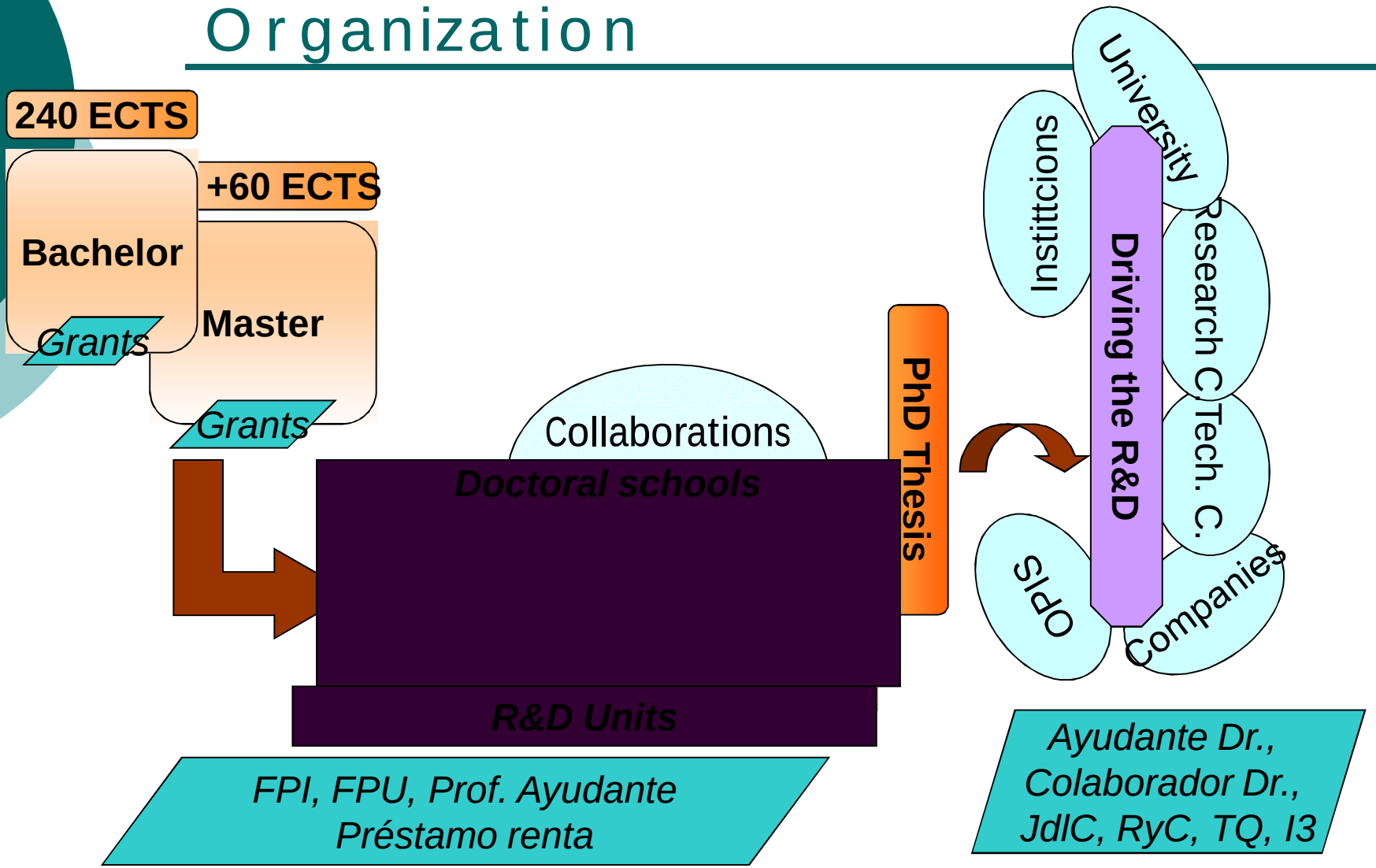
- Defining competencies and skills of the PhD as the main actors of society in the generation, transfer and adaptation of R + D: PhD essentials for institutions involved in innovation and research. *Technology transfer starts with people.*
- Doctorate inextricably linked to the transfer and research missions of universities, in close relation to the improvement of the teaching function, economic and cultural development and social cohesion.
- Accordingly, linked to international strategies and alliances.

PhD leading the transfer from knowledge to society

Principles

- Linking the Bologna Process, doctoral training and research career.
- Linked with the new Law of Science and Technology, where a research career is established, including a Thesis Contract.
- Doctoral-center for the knowledge triangle (Lisbon strategy): base for education, research and innovation.
- Not fragmenting unnecessarily doctoral studies.
- Probably developed in doctoral schools with the participation of universities and other institutions in R & D.
- Internationalization and mobility essential components.
- Assessment and accreditation of quality as a reference for recognition and international appeal.
- Aligned with the Salzburg principles as well as other European recommendations.

Organization



Doctoral Programmes

- Doctorate in an university is organized in *Doctoral Programmes*.
- Each doctoral program guided by an *Academic Committee* (AC), appointed by the Doctoral School and/or the University.
- Chaired by a *Program Coordinator*, a member of one of the institutions of the School / University.
- The committee guides, evaluates and advises whole life of the programme and registered doctoral students.
- Rules proposed by the AC and approved by the University.

Doctorate management

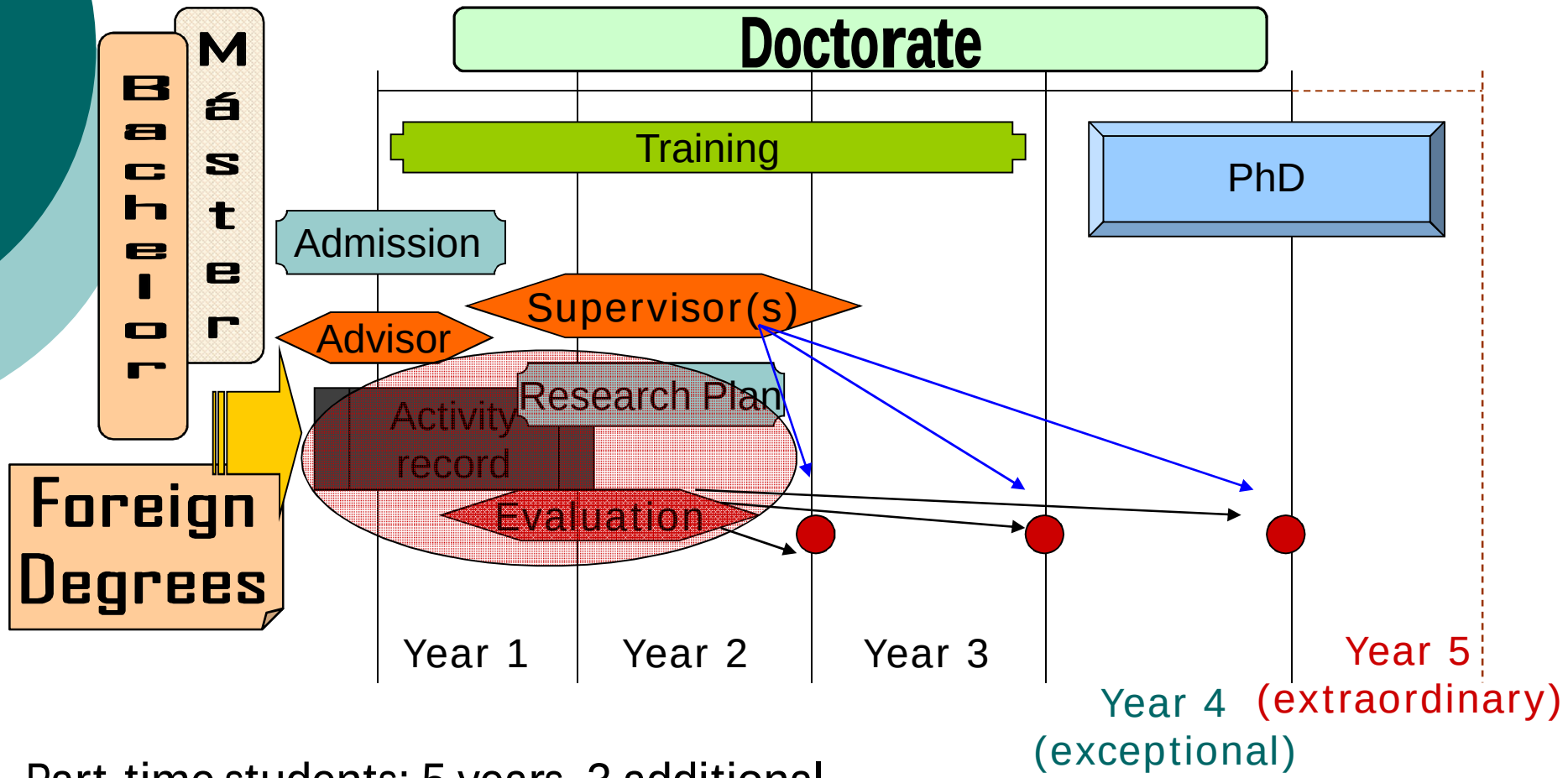
- Doctoral programmes are managed by the scientific units of universities.

  Must be linked to university long-term research strategy.
- Also in Doctoral Schools
- Administrative structure and strategic management. The universities will decide according to its regulations, statutes or regional laws.

Internacionalization

- Quality research is international. A doctorate is based primarily on cooperation between researchers.
- Development of international collaboration by means of:
  - Direct participation in schools of foreign institutions.
  - Agreements and actions to attract talent (teachers and students).
  - Collaboration agreements for certain programs.
  - Joint doctoral programs.
  - Benefits for Erasmus Mundus programs (automatic accreditation).
  - Significant part of our Campus of International Excellence program.
- International (and European) Thesis: Language + stay + jury

Doctorate in Sequence



Part-time students: 5 years, 3 additional

Access

- EHEA official university degree that enable access to Master, with at least 300 ECTS credits of which at least 60 must be of Master's level.
- Spanish official bachelor degree ≥ 300 ECTS credits.
- Holding a PhD
- Foreign degree:
  - Does not need official recognition
  - Level of education equivalent to a Spanish Masters and empowering in home country for admission to the doctorate.
  - Doctoral programs can add additional training

Admission does not imply recognition of previous studies.
The PhD degree will be valid in Spain.

Doctoral Training

- Doctoral candidates are considered as early stage researchers.
- Training by means of several activities (not necessarily formal courses)
  - Transferable skill training
  - Specific training for the programme research focus
- Universities must fix recognition of doctoral management, supervising tasks, as part of the docent duties of professors.

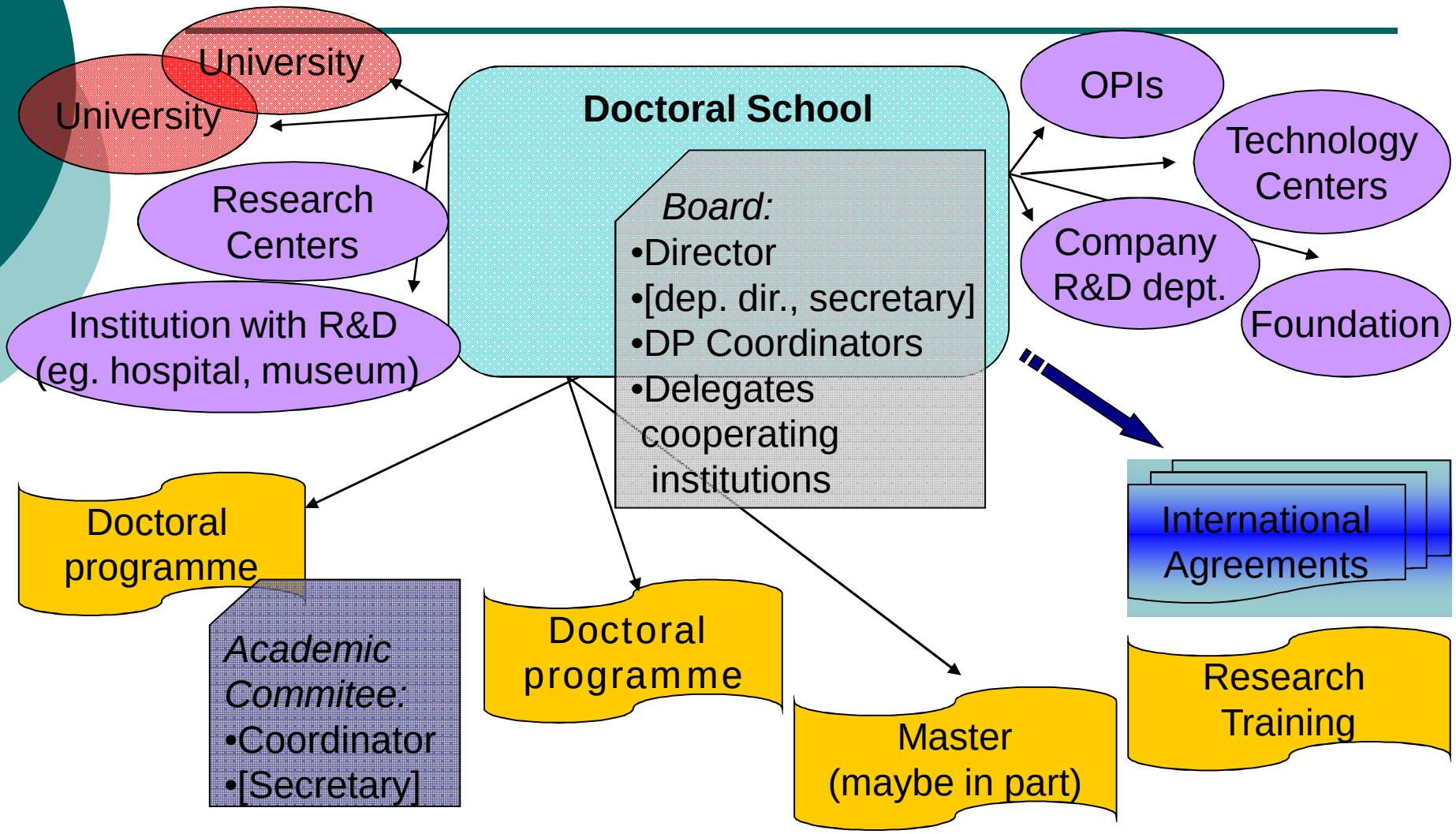
Supervising and Advising

- **Advisor**: From the University/School. Interaction with the programme and Academic Committee.
- **Supervisor** in 6 months: She doesn't need to belong to the University/School. More than one supervisor is allowed (even encouraged in case of collaborative programmes).
- **Pack: Research activity record + Research Plan** evaluated by the AC every year.
- **Formal document** signed by the university, doctoral candidate, supervisor, and advisor (solving conflicts procedure, intellectual property, …)

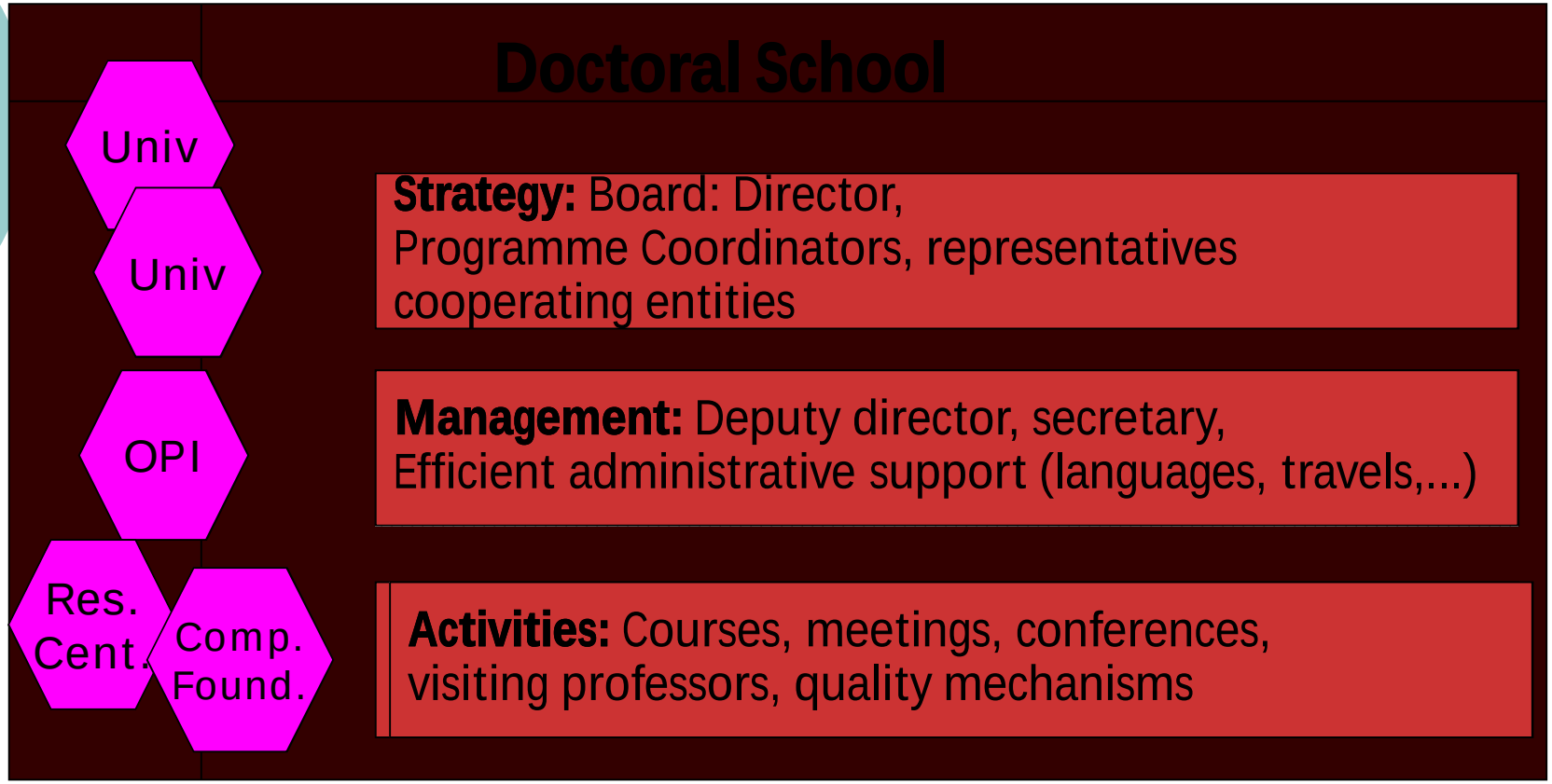
PhD Thesis

- ***Original piece of research work***
- Should allow for autonomous work in the R&D environment.
- The University / Doctoral School fixes their own quality assurance mechanisms. They will be evaluated in evaluation and accreditation process.
- Can be developed in the usual language of their scientific area.
- Public defense.
- Publication required in institutional repository.
- In special circumstances (confidentiality agreements with companies, possibility of patents, etc.) previous rules can be overcome. Universities will develop adequate procedures.
- The University / School may set additional requirements (imposing certain number of publications, pre-evaluation, etc.)

Doctoral Schools



Doctorate Schools: Organization



Quality

- Preference for interdisciplinary schools
- Director: renowned researcher (endorsed at least by having three six-year positive evaluation or similar merits if they are not university professor).
- Coordinators: relevant research (2 six-year positive evaluations + 2 PhD supervising)
- Code of conduct (good practice) endorsed by its members.
- Programs verified by Quality Agency, accredited by University Council.
- Doctoral candidates involved in governance bodies (already existing).
- Websites for Doctoral Programmes, including whole information as well as quality indicators.

Doctorate grants and fellowships

- Label of Excellence
  - Schools
  - Programmes
- Public calls preferably for those holding a label:
  - Fellowships
  - Mobility
  - Visiting professors

PhD Education in Norway
Structure, Organisation and Quality Assurance

Third EUA-CDE Annual Meeting, Berlin 4 – 5 June 2010

Terje Mørland, Director General
NOKUT – Norwegian Agency for Quality Assurance in Education

Higher education in Norway

- Four categories of institutions provide higher education (75 institutions by 01 June 2010):
  - Universities (7)
  - Specialized universities (9)
  - University colleges (35)
  - Small private institutions without accreditation (24)
- Norway has implemented the 3+2+3 model:
  - Bachelor 3 years
  - Master 2 years
  - PhD 3 years
  - There are relatively few exceptions
- Number of students/degrees 2009: 217 000 / 35 000

Providers of PhD education in Norway

- In principle all kinds of institutions can get PhD programs accredited
- Currently 22 institutions provide PhD education:
  - All 7 universities
  - All 9 specialized universities
  - 6 out of 35 university colleges
- Number of students/degrees 2009: 8377 / 1148

Providers of PhD education in Norway

- In principle all kinds of institutions can get PhD programs accredited
- Currently 22 institutions provide PhD education:
  - All 7 universities
  - All 9 specialized universities
  - 6 out of 35 university colleges
- Number of students/degrees 2009: 8377 / 1148
- Distribution of awarded degrees 2009:
  - 4 “old” universities (UiO, NTNU, UiB, UiT) 86%
  - 3 “new” universities (Accr. by NOKUT since 2003) 8%
  - 9 specialized universities 6%
  - 2 university colleges <1%
    (4 colleges have not awarded degrees yet)

PhD education is structured in programs

- There are very few ministerial regulations regarding PhD programs (More or less full flexibility for the institutions!)
- The Norwegian Association for Higher Education Institutions has developed “suggested regulations” that most institutions have to a large extent adopted
- All students must be enrolled in a PhD program:
  - 3 years of full time study (6 semesters)
  - The research project is the core of the education (4-5 semesters)
  - The taught component is equal to 1-2 semesters full time study
- Students are called “candidates” and are employed by the university/college or partner institution (3-4 year full time contracts)
- Students generally get their degrees more rapidly than before the introduction of programs

How structured are our PhD programs really?

- The program is – by regulation - the formal structure of the education
- The institutions have gradually introduced new structuring measures in their programs
- In practice a program can still be anything from an administrative umbrella to a focused research school like structure
- The old universities tend to organize their PhD education in big department, faculty or even institution wide programs (often with subprograms)
- The colleges and new universities tend to have smaller thematic programs

Research schools as structuring elements to increase quality and critical mass

- Two main categories of research schools:
  - Flagships: Schools built around excellent research groups with a strong tradition for doctoral education (CoExcellence etc.)
  - Networks: Networks of groups or institutions providing PhD education in collaboration (can be joint degrees or degrees awarded by one of the partners only)

- A research school is not a formal structure:
  - Students studying in research schools have to be formally enrolled in an a PhD program
  - There are no definitions or regulations regarding research schools
  - Research schools generally seem to be much stronger structuring element than the programs
  - The vast majority of PhD students do not study in research schools

The Norwegian quality assurance model

- The model and the role of NOKUT is the same for all higher education levels, incl. PhD
- The model is based on trust (autonomous institutions):
  - The quality of education is the institutions' own responsibility
  - All institutions must have an internal quality assurance system. Audit by NOKUT every six years is the core element in the model

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- Self accrediting powers according to institution status:
  - Universities and, in practice, specialized universities can establish new programs at all levels
  - University colleges can establish only bachelor programs. Master and PhD programs must be accredited by NOKUT
  - Other institutions have no self accrediting powers
  - NOKUT can revise the accreditation of any program at any given times, incl. the self accredited ones
  - Institutions can apply for accreditation in a higher institution category

Audit of the internal quality assurance systems

- Evaluation criteria:
  - Objectives and stimulation of quality work and quality culture
  - Involvement of all levels of management, broad participation among staff and students, defined tasks and responsibilities
  - Systematic gathering and analyses of quality information
  - Dissemination of results from analyses to responsible bodies and management
  - Use of information for quality improvement

- NOKUT's experience:
  - QA systems are typically well designed for gathering and analyzing data from large student populations (BA and MA)
  - But generally less well designed for gathering and analyzing information about the more individually and research oriented PhD education
  - Effective systems must reach and de-privatize the supervisor-candidate relationship

Accreditation of PhD programs

- Standards and criteria for accreditation:
  - **Program plan**
    - Name, objectives and qualifications, program structure
    - Appropriate scientific level, breadth and depth, coherence
    - International exchange possibilities
  - **Academic staff, scientific activity and infrastructure**
    - Appropriate size and formal qualifications of staff
    - Scientific output (projects and publications)
    - National and international collaboration
    - Infrastructure, regulations and QA

- NOKUT's experience:
  - In general the underlined criteria are the most difficult to meet
  - The new programs accredited by NOKUT have very few students (There are currently no criteria addressing number of students)

Final comments on the status of the introduction of structured PhD education in Norway and the way forward

Status: Bologna is partly implemented:

- Most things look fine administratively
- The candidates finish earlier than before
- The EQF is yet to be introduced – Intended learning outcomes will have to be (re)formulated
- It is questionable whether all formal programs (or subprograms) function as real programs
- It is questionable whether all programs (or subprograms) are above critical mass (both with regard to number of researchers and number of students)

Final comments on the status of the introduction of structured PhD education in Norway and the way forward

Next steps:

- The Ministry and/or NOKUT should consider slightly stricter minimum regulations and/or accreditation standards

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- Ambitious institutions should take the initiative. With few regulations there are almost no barriers to what you can do! (other than financial ones…)