

ORPHEUS

ORganization for **PhD** Education in Biomedicine
and Health Sciences in the **EU**ropean **S**ystem

“ORPHEUS and PhD Training in Europe-New Prospects”

Prof. Gül Güner Akdogan

Dokuz Eylul University, Izmir-Turkey

ORPHEUS-General Secretary

**Kurt Vonnegut
Died 2007**

**“New knowledge is
the most valuable
commodity on earth.
The more truth we
have to work with,
the richer we become.”**

“Breakfast of Champions”



Kurt Vonnegut last summer on Cape Cod, photographed by his daughter, Edie Vonnegut. AP

OUTLINE



- **Background**
- **Introduction**
- **Projects on Quality of PhD Training**
- **Standards**
 - **Students (Candidates)**
 - **Curriculum (Training Program)**
 - **Supervision**
 - **PhD Thesis**
- **Conclusions**

(MY) BACKGROUND

- **1992-** Professor of Biochemistry, Dokuz Eylul University (DEU)
- **2000-2010** Director of Graduate School of Health Sciences, DEU
- **2009-** Chair of FEBS Education Committee
- **2010-** Member of EX-COM (ORPHEUS)
- **2014-** General Secretary of ORPHEUS
- **2010-** Coordinator of DEU in CDE-EUA

PhD DEGREE



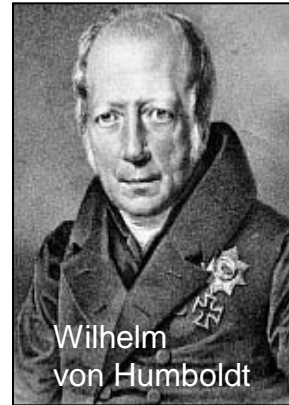
The modern concept of PhD: “research training under supervision”

- **has been developed in the 19th century (practiced in the majority of countries)**
- **The aim: to train a “qualified researcher” which is assessed by the evaluation of a PhD thesis and an oral defence of the thesis**

Nerad M, Heggelund M (eds): Toward a Global PhD, Univ Washington Press 2008

PhD: international degree

(In Latin, *doctore* : “teach”)



1800 Humboldt, Germany
dr. phil.

1861 Yale, USA

1917 Oxford, UK

1947 - Whole World



PhD's – “New generation scientists”

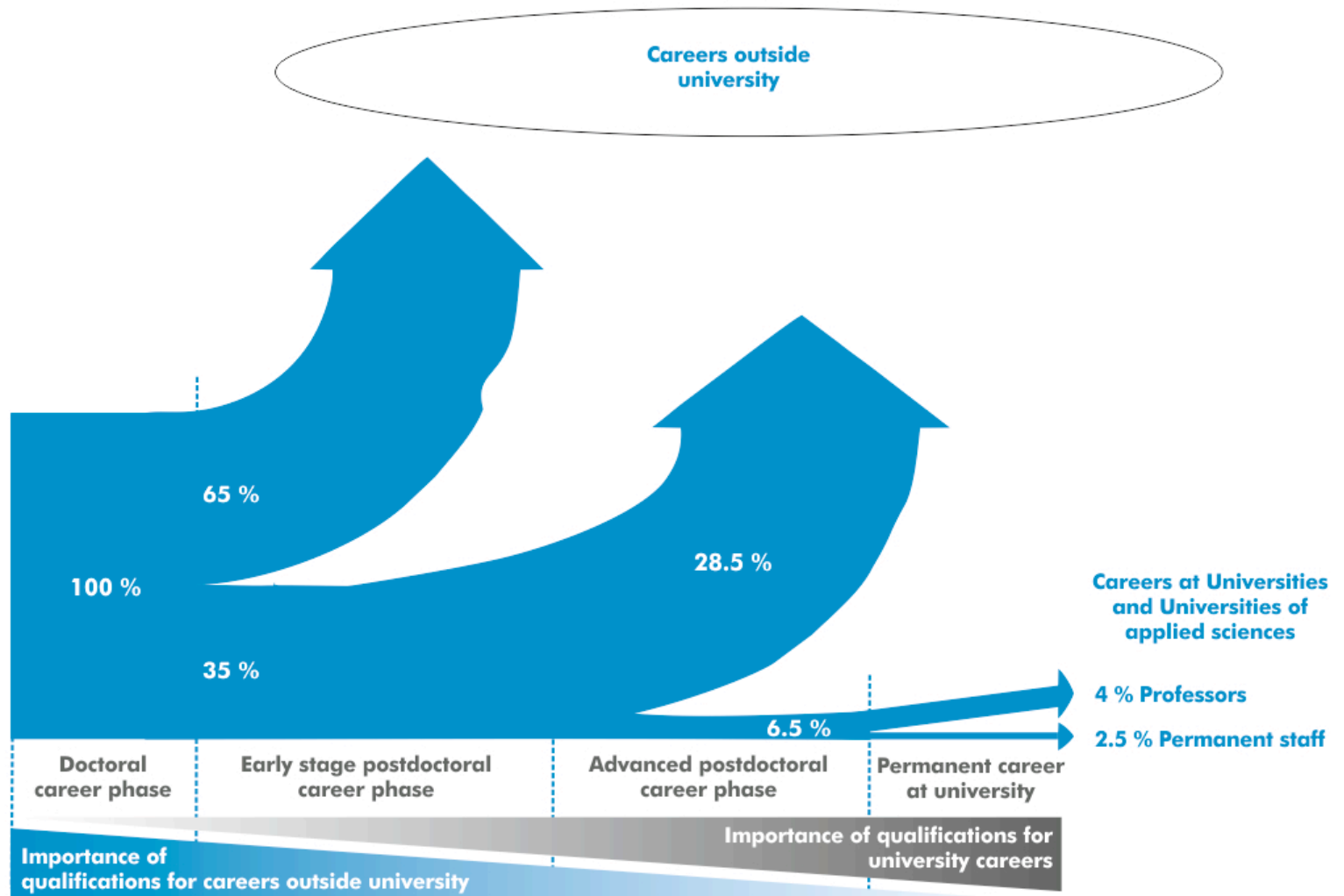


Independent Researchers



nurturing innovative ideas

Career Paths After the PhD- (Germany)



“Careers and Research Performance of PhD Program Graduates of Health Sciences in Turkey”

Zahide Cavdar, Cevval Ulman, Güldal Kirkalı, Hakan Baydur, Gül Güner Akdoğan

Turkish Journal of Biochemistry–Turk J Biochem 2013; 38 (1) ; 118–125

%83 of Doctoral Graduates pursue an academic career in Turkey

PRESENT STATUS

Although the PhD has been the essential basic qualification for over 50 years . . .

the standards for its conferral have been more intuitive than objective, and have led to:

great variation in the abilities and skills of emerging postgraduates.

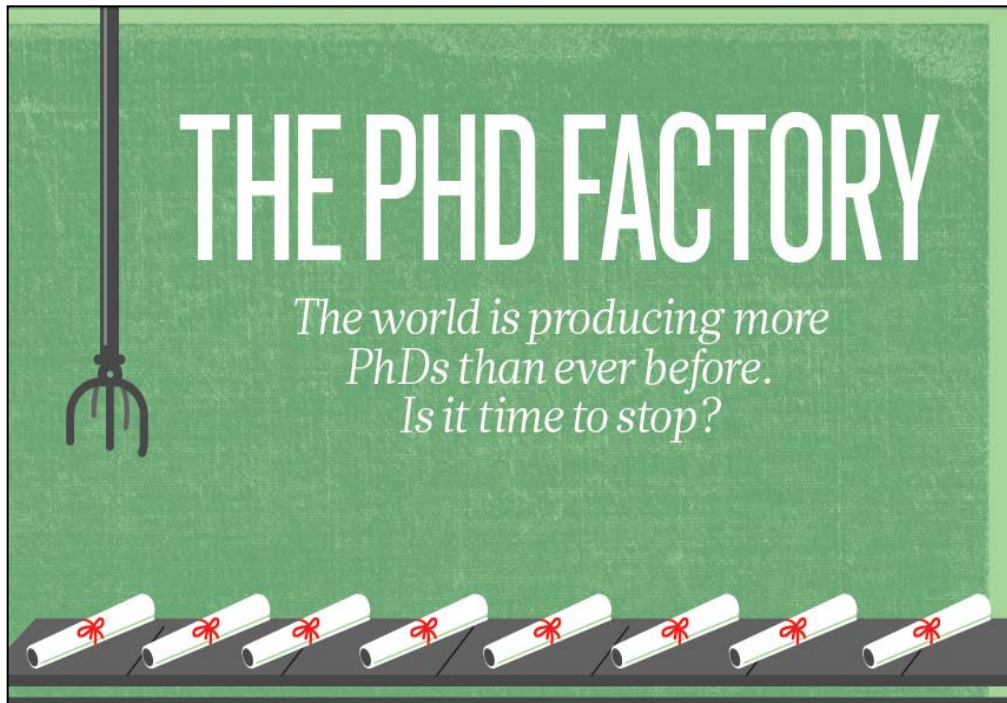
Fix the PhD

No longer a guaranteed ticket to an academic career, the PhD system needs a serious rethink.

The world has many problems and it will take a lot of bright, educated people to solve them. So, on the face of it, it seems like a good thing that more and more people are earning PhDs in science, technology and engineering. Most countries, convinced that higher education and scientific research are key to economic growth and prosperity, are expanding doctoral education in science.

Editorial

Nature; 472: 259–260
(21 April 2011)



Nature 2011; 472: 276-279

RETHINKING PHDS

Fix it, overhaul it or skip it completely — institutions and individuals are taking innovative approaches to postgraduate science training.

BY ALISON MCCOOK

280 | NATURE

WORLD VIEW *A personal take on events*

R. HOWARD



Reform the PhD system or close it down

*There are too many doctoral programmes, producing too many PhDs for the job market. Shut some and change the rest, says **Mark C. Taylor**.*

Projects on PhD Education



- **“PhD Standards” Project**
International Union of Biochemistry (1989)
(and Molecular Biology) (2000)
- **“Bologna Declaration” (1999) + Berlin (2003)**
- **“Doctoral Project” (2006)** of the European University Association (EUA)
- **“Setting Standards for PhD Education”**
ORPHEUS (2009-)
- **“Best Practices”, Council of Graduate Schools, USA**

BOLOGNA PROCESS : QUALITY ASSURANCE & ACCREDITATION

QUALITY CULTURE

ECTS/DS
JOINT DEGREES
LIFELONG LEARNING
LEARNING OUTCOMES
LANGUAGE

ACCREDITATION



Evaluation of Higher education according to comparable and sustainable European Quality Standards

1. EQUIVALENCE, RECOGNITION
2. MOBILITY
 - During training
 - After training
3. EMPLOYMENT
 - Native Country
 - Europe

Three Priorities of the Bologna Process

- Introduction of the three cycle system (bachelor /master /doctorate)
- Quality assurance
- Recognition of qualifications and periods of study
- *Berlin Communiqué (2003): PhD has been attributed an increasing Significance*

- **EUA**
(European Universities Association)

“Doctoral education is a major priority for European universities and for EUA. It forms the first phase of young researchers’ careers and is thus central to the drive to create a Europe of knowledge, as more researchers need to be trained than ever before if the ambitious objectives concerning enhanced research capacity, innovation and economic growth are to be met.”

EUA in Doctoral Education:

From Berlin (2003) to Lausanne (2008)

- **Berlin Communiqué (2003):**
(Doctoral Programmes defined as the “third cycle”)
- **EUA Doctoral Programmes Project 1 (2004-2005)**
- **EUA Project 2: “Doctoral Programmes in Europe” (2005 – 2007)**
- **London Communiqué (2007)**
- **Lausanne (June 2008):**
- **Launch of the “EUA - Council for Doctoral Education” (EUA-CDE)**

ORPHEUS

ORganization for PhD Education in Biomedicine and Health Sciences in the EUropean System

Founded in Zagreb in 2005 by
Prof. Zdravko LACKOVIC

- <http://www.orpheus-med.org>
- **Mission:** To elevate the quality of PhD training to the highest levels
- **Aims:** To develop standards for PhD education, to safeguard PhD as a research degree, strengthening career opportunities for PhD graduates, to promote collaboration.....

Development of

orpheus

ORPHEUS conference	number		
	delegates	institutions	countries
2004, Zagreb	53	25	16
2005, Zagreb	71	33	21
2007, Helsinki	80	43	26
2009, Aarhus	165	72	33
2010, Vienna	196	114	39
2011, Izmir	250	98	42
2012, Bergen	195	156	36
2013, Prague	180		
2014, Lausanne	220		

STANDARDS FOR PhD EDUCATION IN BIOMEDICINE AND HEALTH SCIENCES IN EUROPE

A publication from
ORPHEUS-AMSE-WFME



orpheur

Organisation of PhD Education in Biomedicine and Health Sciences in the
EUropean System





AMSE creates a forum for European Medical Faculties to share experiences in the fields of education, research and management. AMSE seeks to stimulate co-operation between

Medical Schools in Europe and to initiate and sustain relations with other professional, governmental & non-governmental organisations in education, research and health care.



About AMSE



Constitution



Recent News



Meetings



Publications & Guidance



Member schools



Executive Committee



Contact Details

News

The next Annual Conference will be in Ljubljana, Slovenia, and will be on the subject of the staffing of medical schools. See the Conference website [here](#).

AMSE is a partner in the EU-DRIVERS project, funded by the European Commission under the Lifelong Learning Programme.

Purpose of standards in PhD education

- **Ensuring that the PhD remains a research degree**
- **Maintaining and raising quality despite increased quantity**
- **Providing a secure basis for mobility of PhD graduates**
- **Providing governments with information about the content of PhD programmes and their contribution in the development of knowledge societies**
- **Safeguarding the reputation of the PhD and strengthening career opportunities for those with PhD degrees**

Standards for PhD education in Biomedicine and Health Sciences

A Proposal produced by an
ORPHEUS – AMSE – WFME
Taskforce



ORPHEUS

ORganization for PhD Education in Biomedicine
and Health Sciences in the EUropean System

1

Eight chapters

- 1. Research Environment**
- 2. Outcomes**
- 3. Admission policy and criteria**
- 4. PhD training programme**
- 5. Supervision**
- 6. PhD thesis**
- 7. Assessment**
- 8. Structure**

1. RESEARCH ENVIRONMENT

- **Strong research environment**
- **Facilities offered must be compatible with the requirements**
- **Research must be consistent with international ethical standards**



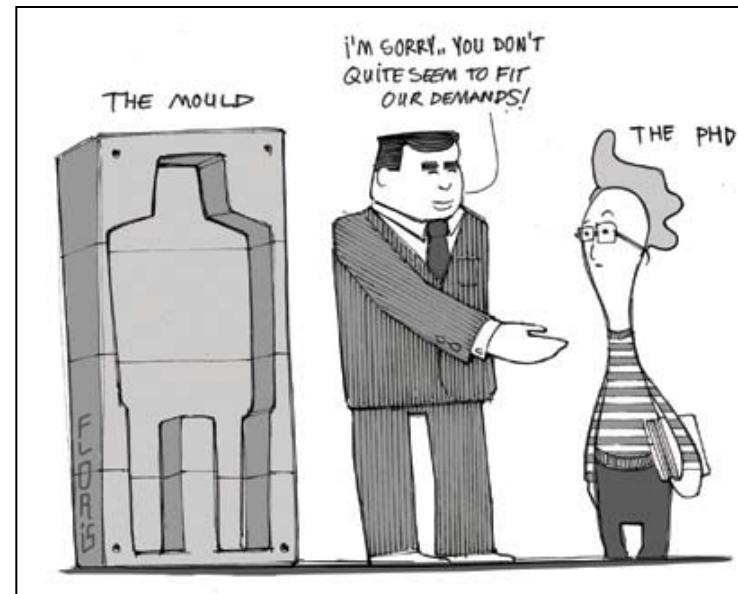
2. OUTCOMES



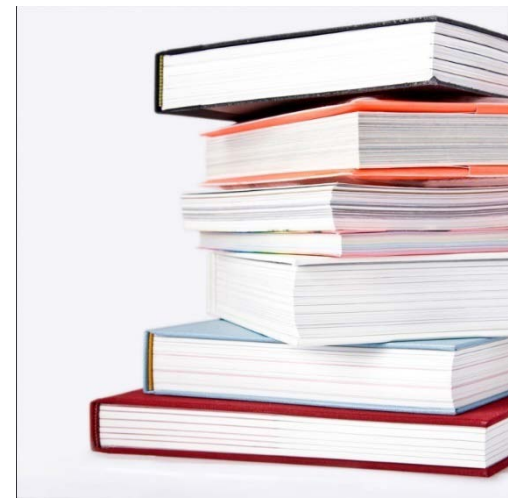
- **Qualified, independent researcher**
- **Comptences acquired, permitting pursue of careers outside the academia or clinical research:**
(Solution of complex problems by critical analysis and evaluation, appropriate transfer of new technology and synthesis of new ideas)

3. ADMISSION POLICY and CRITERIA

- Selection on basis of a competitive and transparent process
- Applicants must have an educational degree corresponding to a MSc degree, or to a medical degree
- Before enrolling a PhD student, or at a clearly defined timepoint in the programme, the institution must evaluate the quality of the Project
- Resources should be available to complete the PhD research



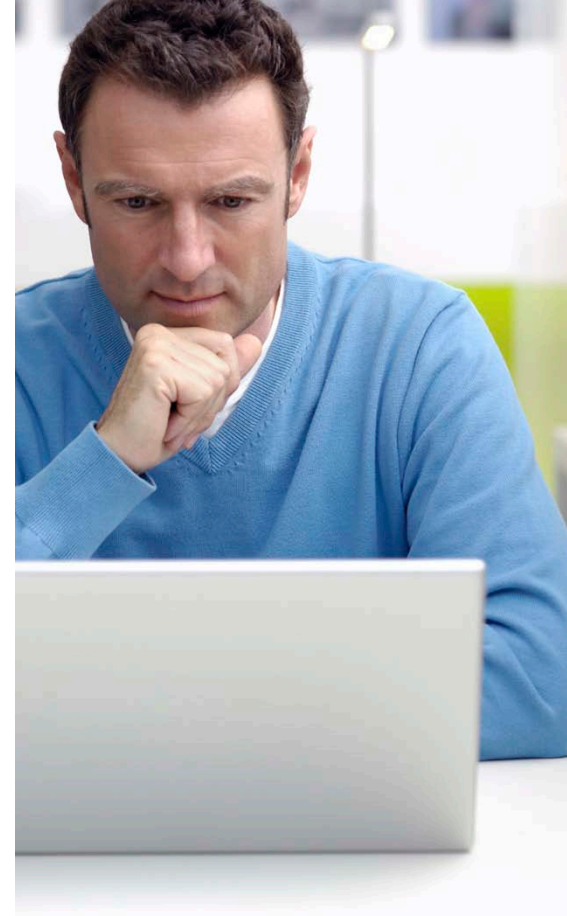
4. PhD TRAINING PROGRAMME



- **Must be based on original research**
- **Must be performed under supervision**
- **PhD students must be trained in ethics and responsible conduct of research,**
- **Must be structured with a clear time limit- a length equivalent to 3-4 years full time**
- **Formalised courses should total about 6 months**
- **PhD programmes performed in parallel with clinical or other Professional training must have the same time for research**
- **Continuous assessment of PhD students is necessary**
- **iology and cell biology, biochemistry and molecular biology, the particular molecular bioscience, and a**

5. SUPERVISION

- Each PhD student must have a principal supervisor and when relevant at least one co supervisor
- Supervisors must be scientifically qualified and active scholars in the field concerned
- The institution must ensure that training in supervision is available for all supervisors and potential supervisors



Good Supervision

Essential:

- To meet objectives of PhD programme
- To develop key research / transferable skills
- To complete PhD within desired timescale

Good Supervision

Requires involvement of:

- **Supervisory Team**
- **Research Institution**

The PhD Journey!



“A PhD is a **rough journey** into the special world of science. The supervisor’s job is **to guide the student** on their journey and help them reach their destination”

Anders Baun, 2009

6. PhD THESIS

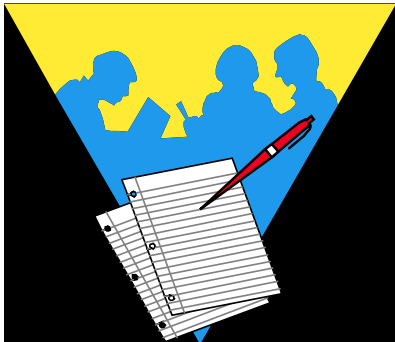


- The benchmark for the PhD thesis must be the outcome expected from 3-4 years research at international level (equivalent to at least three in extenso papers published in internationally recognized, peer reviewed journals).
- Thesis must also include a full review of literature, a full account of research aims, methodology, results, discussion, conclusions and further perspectives of the research project.
- A PhD thesis in clinical medicine must meet the same standards as other PhD theses.



7. ASSESSMENT

- Acceptance of a PhD thesis must include the acceptance of both the written thesis and a subsequent oral defense.
- The assessement committee should include at least two members from another institution.
- The supervisor must not be a member of the assessment committee.



246 IRISH MISSION.

Name.	Age.	Period & Nature of Disease.	Duration of Treatment.	Result.
John Cronin.....	29	16th day of fever.....	May 29 to June 1.....	Cured.
John Harrington.....	40	16th do.....	" 29 to " 31.....	do.
Margaret Ford.....	27	16th do.....	" 19 to " 21.....	do.*
Patrick Butler.....	22	16th do.....	" 27 to " 29.....	do.
Mary Butler.....	40	16th do.....	June 8 to 14.....	do.
Mary Connor.....	40	16th do.....	May 25 to June 15.....	do.
Thomas Harrington.....	38	16th do.....	" 27 to " 29.....	do.
John Harrington.....	3	16th do.....	" 27 to " 29.....	do.
Mary Curry.....	12	16th do.....	" 24 to " 26.....	do.
Fanny Curry.....	6	16th do.....	" 24 to " 26.....	do.
John Curry.....	20	16th do.....	" 24 to " 26.....	do.
Dennis Curry.....	21	16th do.....	" 24 to " 26.....	do.†

* Relapsed on June 17th, was again under treatment to June 14th. Cured.
† A case of low typhus, with extreme nervous depression.
‡ Six members of this family recovered from fever, under my care. Dennis Curry relapsed on June 16th, was again under my treatment to June 16th. Cured.

In the above statements, the date of recovery is fixed from the day on which the patient was so far well after the fever as not to require medicine, or where the patient was able to leave the bed with safety.

In most of the cases where relapse occurred, it was clearly traceable to the use of improper food, which the poor convalescent was frequently obliged to partake of, from the difficulty of obtaining a more digestible or wholesome description than Indian meal made into thick porridge or hard cakes. Rice was found to agree with the convalescents very well, but in many cases the supply of it was so small, that the weekly allowance was used in three or four days.

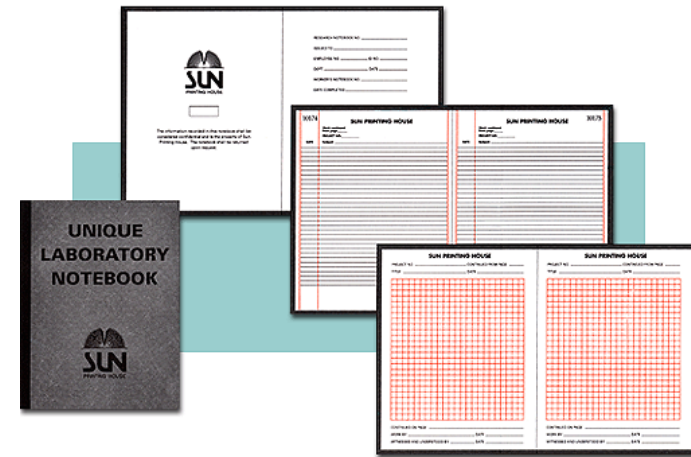
The drinks generally used by the fever patients were rice water, milk and water, cold water, and in a few cases whey.

The ages of the patients stated in the above and in the following report were ascertained as accurately as possible, but cannot be considered as absolutely exact.

It was an invariable rule to visit the patients occasionally, for at least a week after the treatment was discontinued, in order to ascertain if relapse should have occurred.

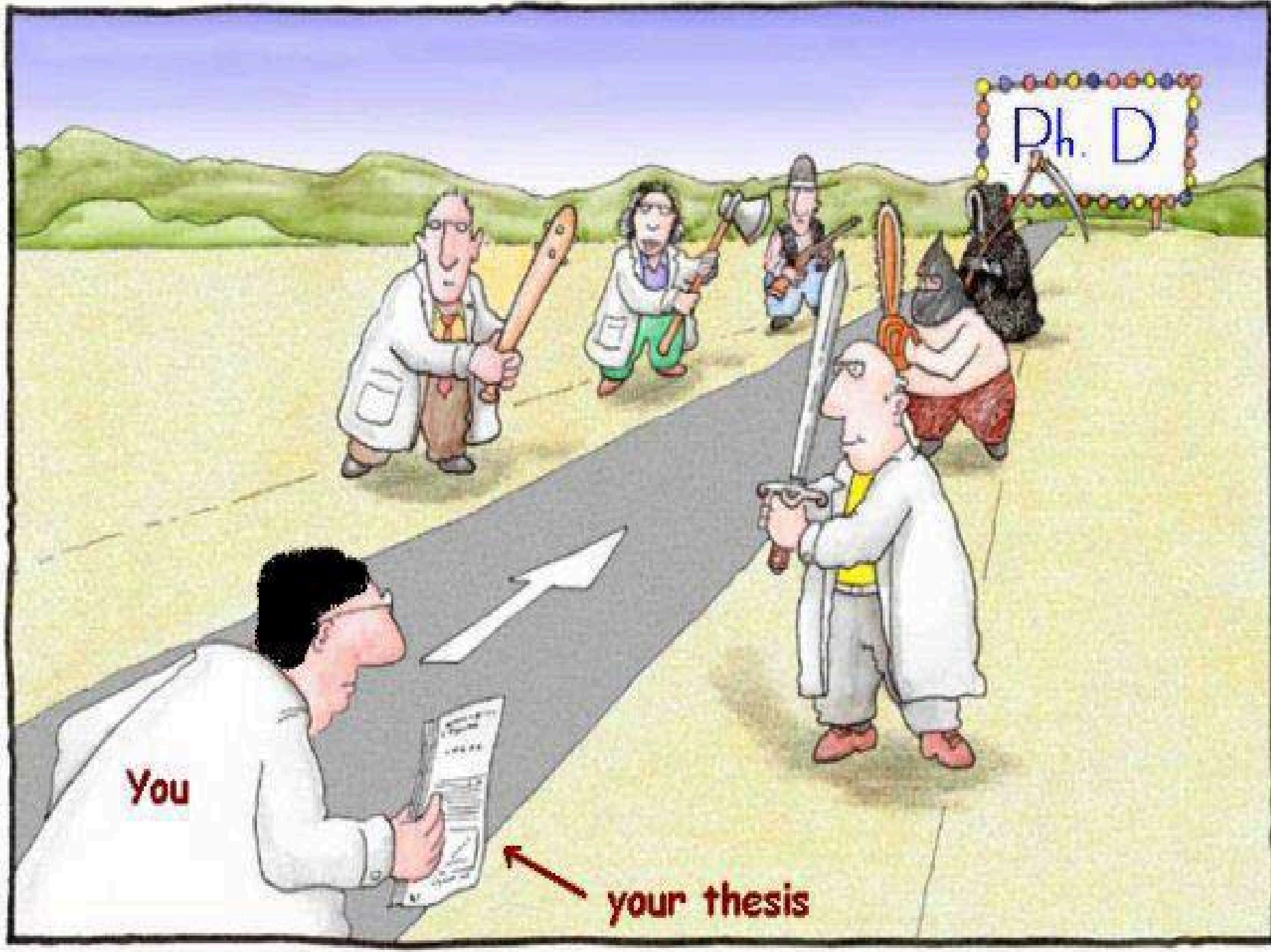
8. STRUCTURE

- The graduate School must have sufficient resources for proper conduct of PhD programmes.
- There should be procedures for regular review and updating.
- Career planning should be provided for the PhD students

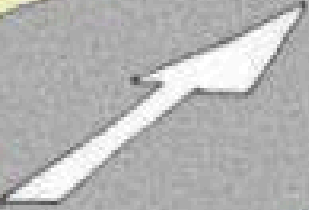


OVERVIEW: ISSUES

- **Outcome of PhD Training**
- **Research Environment**
- **Admission Policy**
- **Supervisor's responsibilities**
- **Supervisory committee**
- **Candidate's responsibilities**
- **Integrity in science**
- **The thesis-its assessment**
- **Duration of training-training programme**
- **Funding**
- **Mobility**

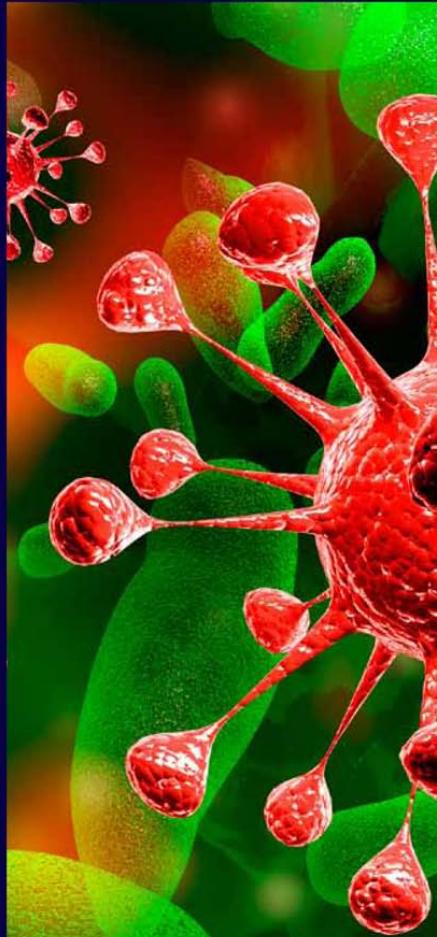


You



your thesis

Ph. D



MÜSBED 2012;2(Suppl. 2):S43-S45

Davetli Editoryal / Invited Editorial

ORPHEUS Standards and The European Vision in PhD Education in Biomedicine and Health Sciences

Zdravko Lacković¹, Gül Güner-Akdoğan²

¹MD, PhD, Professor of Pharmacology, Director; PhD Programme "Biomedicine and Health Sciences" (<http://www.mef.unizg.hr/>), ORPHEUS President ([orpheus-med.org](http://www.orpheus-med.org)), AMSE EC member (www.amse-med.eu), University of Zagreb School of Medicine, Salata 11, Zagreb, Croatia
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²PhD, Professor of Biochemistry, Department of Medical Biochemistry, School of Medicine, Dokuz Eylül University (www.deu.edu.tr)
Department of Molecular Medicine, Graduate School of Health Sciences - Izmir
Member, Executive Board of ORPHEUS and Chair, 2011 Izmir Orpheus Congress(www.orpheus-med.org)
Chair, FEBS Education Committee (www.febs.org), E-mail: gul.guner@deu.edu.tr
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The concept of the PhD degree as a "research training under supervision", has been developed in the nineteenth century and since then has been propagated to the whole world. PhD training in Europe constitutes the main connection between European higher education and European research areas.

According to the Bologna system, doctorate

The situation in Turkey is similar, except some points:

Firstly, according to the results of research performed on the outcome of the PhD programmes in the health sciences in Turkey, the majority of the PhD candidates would like to see themselves as academicians (%71.9). This

Graduate Pathways to Success-

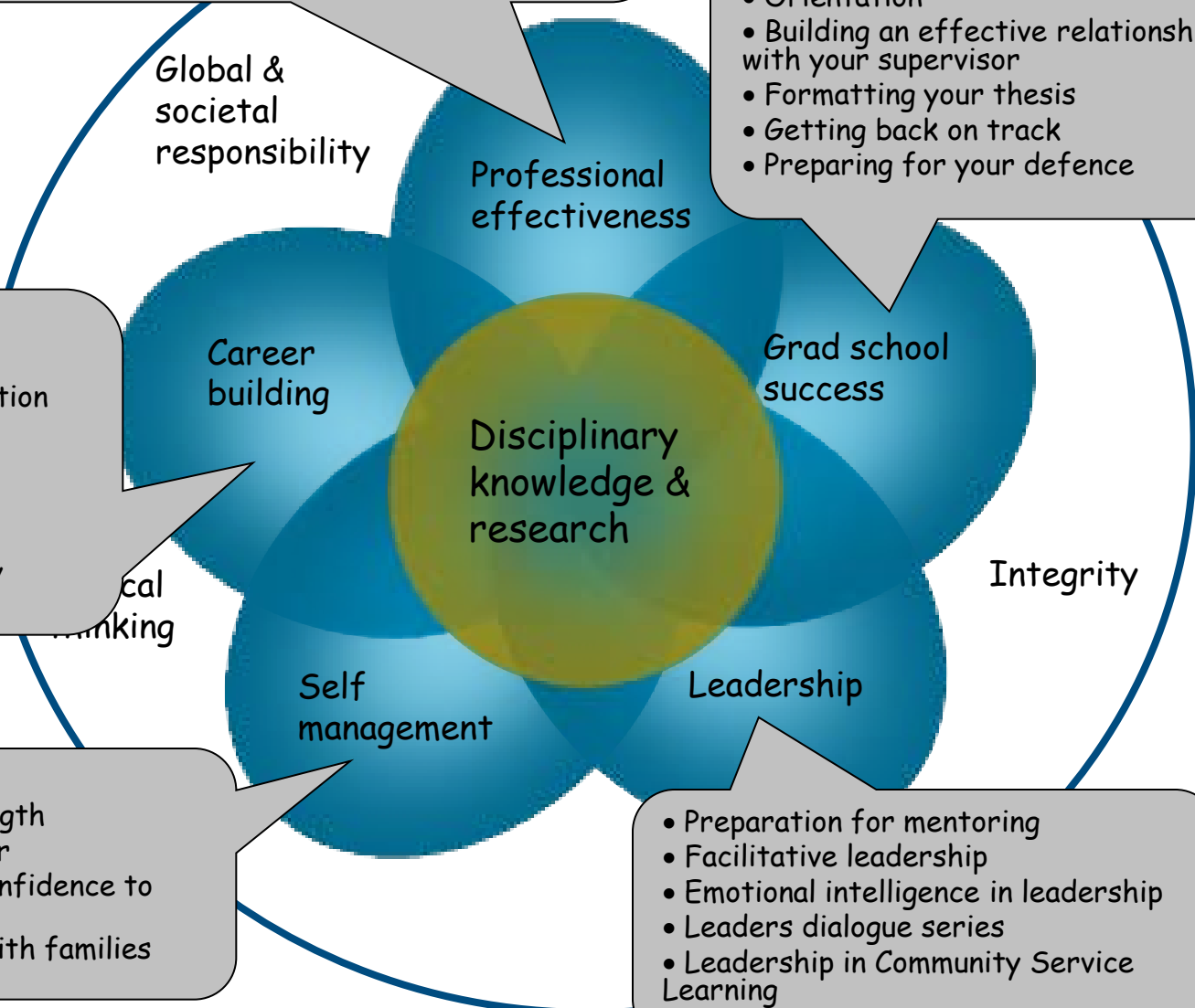
- So, you're ready to publish
- Publishing in the Arts and Humanities
- Communicating with the media
- From academic researcher to commercial writer
- Entrepreneurship
- Preparing a conference poster
- Responsible Conduct of Research

- Awards & scholarships
- Orientation
- Building an effective relationship with your supervisor
- Formatting your thesis
- Getting back on track
- Preparing for your defence

- Career planning
- Building career momentum
- What's next? Tools for transition
- Résumé and cv writing
- Interviewing skills
- The successful academic
- Non-traditional careers
- Careers in business & industry
- Working with governments

- Time management
- From stress to strength
- Why emotions matter
- Communicate with confidence to avoid conflict
- Graduate students with families

- Preparation for mentoring
- Facilitative leadership
- Emotional intelligence in leadership
- Leaders dialogue series
- Leadership in Community Service Learning





Thank-you!



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