



orpheus  
QUALITY IN DOCTORAL EDUCATION



# Orpheus 2024 Conference



*“Innovative Strategies And Concepts For Phd  
Education In Biomedicine And Health Sciences”*

**18 - 20 April Tbilisi, Georgia  
Sheraton Metekhi Palace**



The Organisation for PhD Education in Biomedicine and Health  
Sciences in the European System

## **ORPHEUS 2024 CONFERENCE**

Innovative Strategies and Concepts for PhD Education in  
Biomedicine and Health Sciences

Tbilisi, Georgia  
18 - 20 April 2024

**PROGRAM**



# WELCOME

## *Dear colleagues and friends,*

We would like to welcome you to ORPHEUS 2024 Conference, an annual conference held by The Organization for PhD Education in Biomedicine and Health Sciences in the European System (ORPHEUS); this year hosted by the David Tvildiani Medical University, Georgia.

Ensuring quality (and/or innovation) in Research, future strategies and concepts for PhD education in universities is the main theme of the ORPHEUS 2024 conference, including: how can those universities and/or PhD programs “respond” to common new vision direction for research assessment reform within existing practices in Biomedicine and Health sciences; what innovative approaches in teaching, learning, research and supervision are/can be offered even in running (with well-known design) PhD programs; as interdisciplinary thinking and practices are part of doctoral experience, conference will give special emphasize on the impact of such programs and practices for the society and/or for training of physicians. These will be presented in key-note speeches, oral and poster presentations, workshops and joint panel discussion format.

Since its foundation (2004) – for the mission of spreading best practice in PhD education, this organization supports member schools to strengthen career opportunities for their PhD graduates and to give them guidance and support in enhancing their contributions to medicine and society. This is a considerable achievement of the organization.

After 20 years (anniversary) this conference will be hosted in Georgia, Tbilisi. We can now build on this history and discuss the various challenges that face organizers of doctoral schools.

We are expecting a highly interactive meeting, excellent speakers who will discuss their understanding and strategic concepts related to research, doctoral education...

We hope you enjoy ORPHEUS Tbilisi 2024.

***John Creemers***

**President of ORPHEUS**

# GENERAL INFORMATION

## Scientific Committee

- **Professor John Creemers**  
*KU Leuven, Belgium*
- **Professor Janet Carton**  
*University College Dublin, Ireland*
- **Professor Ana Borovečki**  
*University of Zagreb, Croatia*
- **Professor Nebojsa Lalic**  
*Faculty of Medicine of Belgrade University, Serbia*
- **Professor Joana Almeida Palha**  
*University of Minho, Portugal*
- **Professor Sergo Tabagari**  
*David Tvildiani Medical University, Georgia*

## Local Organizing Committee

- **Prof. Levan Tvildiani** *Rector, David Tvildiani Medical University (DTMU)*
- **Prof. Nino Tabagari** *Dean of AIETI Medical School - David Tvildiani Medical University*
- **Prof. Guram Sanadiradze** *Vice Rector in Research of David Tvildiani Medical University*
- **Prof. Tamar Talakvadze** *Head of Quality Assurance Office, DTMU*
- **Assoc. Prof. Ilia Nadareishvili** *Head of Research Unit of Medical Education Center, AIETI Medical School of DTMU*
- **Paata Tsagareishvili M.D.** *Vice Dean in Education, DTMU*
- **Aleksandra Nadiradze M.D., PhD candidate** *- General Secretary of Local Organizing Committee, ORPHEUS Students Representative*

## GENERAL INFORMATION

- **Lela Nadashvili M.D.** *Executive Secretary, Assistant Dean of AIETI Medical School, DTMU*
- **Nino Giorgadze** *Head of the Legal Department of DTMU*
- **Tinatin Kutchukhidze M.D.** *President of the Students and Young Scientists Association, DTMU*
- **Zanda Bedinashvili M.D., PhD candidate** *Tbilisi State University, ORPHEUS Students Representative*

## PRESENTATIONS

Please hand over all of your lecture materials (including name and title) to the technical team working in the lecture hall, either in the morning or in the breaks between the symposiums.

## INTERNET CONNECTION

There is an open (no password) Wi-Fi network at the venue.

**The registration desk will be open from  
9:00 AM to 18:00 PM on 18-20 April, 2024**

**Disclaimer:** Neither the Orpheus nor the conference organizing committee takes responsibility for the content of published abstract. No conflicts of interest were reported. Any mentioning of commercial products or brand names is without any intent to promote that product or brand.

# PROGRAM

## DAY 1: THURSDAY 18 April, 2024

09:00 – 13:00	<b>Registration/Coffee</b>
11:00 – 13:00	<b>ORPHEUS EC Meeting</b>
13:00 – 14:00	<p><b>Opening Ceremony</b> Welcome Address:</p> <p><b>Prof. John Creemers</b> - Organization for PhD Education in Biomedicine and Health Sciences in the European System, President</p> <p><b>Prof. Levan Tvildiani</b> - David Tvildiani Medcial University, Rector</p> <p><b>National Authority(ies)</b></p>
<b>Session 1A</b>	
14:00 – 16:00	<p><b>Panel Discussions:</b> <b>How Universities and/or Doctoral Schools can Engage in a Common Direction for Research Assessment Reform, While Maintaining Organizations' Autonomy</b></p> <p><i>Moderators:</i> <b>Prof. Joana A. Palha</b> – School of Medicine, University of Minho, Braga, Portugal</p> <p><b>Prof. Melita Kovačević</b> – University of Zagreb, Zagreb, Croatia</p> <p><b>Prof. John Creemers</b>, President of ORPHEUS - <b>Research Assessment Reforms in ORPHEUS Member Universities</b></p> <p><b>Prof. Harm Peters</b>, President of AMSE - <b>How AMSE Member Schools can Respond on Research Assessment Reform, While Maintaining Organizations' Autonomy</b></p> <p><b>Assoc. Prof. Subha Ramani</b>, President of AMEE - <b>Balancing Common Direction for Research Assessment Reform and Organizations' Autonomy</b></p> <p><b>Prof. Stephane Berghmans</b>, Founder of CoARA Coalition and Author of EUA Agreement, EUA-CDE - <b>Rethinking Research and Academic Career Assessment: The Role of Universities</b></p> <p><b>Prof. Menico Rizzi</b>, University of Piemonte Orientale, Italy and CoARA - <b>The Coalition for Advancing Research Assessment (CoARA): First Outcomes of a Global Initiative for a Systemic Change of Research Assessment</b></p> <p><b>Prof. Ricardo León-Bórquez</b>, President of WFME - <b>Can the PGME Standards of the WFME be Used for PhD Programs?</b></p>
16:00 – 16:20	<b>Coffee Break</b>



# PROGRAM

## Session 1B

16:20 – 17:00	<p><b>Keynote Presentations:</b> Chair: Giorgi Chakhava - Assoc. Prof. DTMU, Tbilisi, Georgia</p> <p><b>Prof. Robert A. Harris</b>, Karolinska Institutet, Stockholm, Sweden <b>PhD School's Role in Building Ecosystems Where Inventors, Business Professionals, Funding Bodies and Other Key Players can Collaborate to Speed up Innovations</b></p>
17:00 – 18:00	<p><b>Short Communications 1</b> Chair: Tinatin Zurashvili - Assoc. Prof. DTMU, Tbilisi, Georgia</p> <p><b>An Overview of the Current State of Turkish Member Graduate Schools of Health Sciences and Their Expectations from ORPHEUS</b> - Prof. Dr. Hakan S. Orer, Koç University, (Istanbul, Türkiye)</p> <p><b>Implementation of Honoring the Most Successful PhD Theses: A 5-Year Analysis at the Faculty of Medicine, University of Belgrade</b> – Prof. Petar Milovanovic, University of Belgrade, (Belgrade, Serbia)</p> <p><b>Interdisciplinary Hubs of Academic Collaboration: The Case of One Health within Una Europa</b> – An Huts, Sr Adviser on Joint PhD, KU Leuven, (Leuven, Belgium)</p> <p><b>Preparing Leaders in Biomedicine through an Innovative Doctoral Curriculum Approach</b> – Dr. Rahimi Syaidah, Universitas Indonesia, (Jakarta, Indonesia)</p> <p><b>Uncovering and Addressing Undesirable Practices along the PhD Trajectory: Signaling, Escalation and Action Plan</b> - Mandy Xian Hu, PhD Advisor, Amsterdam UMC Doctoral School, (Amsterdam, The Netherlands)</p>
19:00 – 24:00	<p><b>Welcome Reception ORPHEUS 2024</b></p>

# PROGRAM

DAY 2: FRIDAY 19 April, 2024

## Session 2A

10:00 – 10:45 **Keynote Presentations:**  
**ORPHEUS Labeling**  
Chair: Hakan S. Orer - Prof. Koç University Ethics Committees, Chair, UNESCO International Bioethics Committee, Member, ORPHEUS, Executive Committee Member, Istanbul, Türkiye  
**Prof. Gül Güner-Akdoğan**, Medical Biochemistry School of Medicine, Izmir University of Economics, Balçova, Izmir, Türkiye  
**Prof. Joana A. Palha**, School of Medicine, University of Minho, Braga, Portugal

10:45 - 11:45 **Short Communications 2**  
Chair: Gvantsa Kharashvili - Prof. DTMU, Tbilisi, Georgia  
**Academic Integrity Challenges and Solutions in the Age of Generative Artificial Intelligence** – Prof. Ekaterina Kldiashvili, TMA, (Tbilisi, Georgia)  
**Effectiveness and Efficiency of Using E-Learning Management System for Doctoral Education at Universitas Indonesia** – Prof. Asmarinah, Universitas Indonesia, (Jakarta, Indonesia)  
**Perceptions and Expectations on the Integration of Technology and Large Language Models in PhD Education: A Comparative Study of PhD Candidates and Supervisors** – Y. Güldiken, Istanbul University, (Istanbul, Türkiye)  
**Strengthening PhD Education in Health Sciences: Transferable Skills** - Tugce Necla SELVI, PhD Candidate, Bursa Uludağ University, (Bursa, Türkiye)

11:45 – 12:00 **Coffee Break**

## Session 2B

12:00 – 12:50 **Keynote Presentations:**  
Chair: Giorgi Pkhakadze - Prof. DTMU, Consultant at World Health Organization, Geneva, Switzerland  
**Prof. Mariëtte van den Hoven**, Amsterdam University Medical Centre, Dep Ethics, Law and Humanities, Amsterdam, Netherlands  
**What Do PhD's and Their Supervisors Need to Be(come) Responsible Researchers? Innovations in RCR Training in Rapidly Changing Research Practices**

# PROGRAM

12:50 – 13:45	<p><b>Panel Discussions:</b> <i>Moderator: Prof. Robert A. Harris - Karolinska Institutet, Stockholm, Sweden</i></p> <p><b>PhD Candidate Perspective:</b> <b>Kaan Mert Guven</b>, PhD candidate - Acibadem University, Istanbul, Türkiye <b>Presenting Updated ORPHEUS Charter of PhD and Supervisors' Relationship</b></p> <p><b>Supervisor Perspective:</b> <b>Prof. Cormac Taylor</b>, School of Medicine, Dublin, Ireland</p> <p><b>PhD Ombudsman:</b> <b>Eva Boffe</b>, Policy Advisor for the Doctoral School of Biomedical Sciences (KUL) - Leuven, Belgium</p> <p><b>Fostering a Supportive Academic Environment:</b> <b>Ombuds Services at the Doctoral School of Biomedical Sciences</b></p>
13:45 – 14:00	<b>Coffee Break</b>
14:00 – 15:00	<p><b>Parallel Workshops:</b></p> <p>Chairs: Rusudan Agladze - Assoc. Prof. DTMU Tbilisi, Georgia; Tamar Talakvadze - Prof. DTMU, Tbilisi, Georgia; Aleksandra Nadiradze - PhD Candidate, DTMU, Tbilisi, Georgia</p> <p><b>№1. Workshop: Supervisors Training</b> <b>Improving Mentor-Doctoral Student Relationship in Postgraduate Doctoral Study in Biomedicine and Health Sciences on Supervisor Training</b></p> <p><b>Prof. Janet Carton</b>, University College Dublin, Dublin, Ireland</p> <p><b>№2. Workshop: ORPHEUS Labeling</b> <b>Prof. Gül Güner-Akdoğan</b>, Medical Biochemistry School of Medicine, Izmir University of Economics, Balçova, Izmir, Türkiye</p> <p><b>№3. PhD Workshop: Challenges in Ethics and Scientific Integrity in Research and Professional Development: From the Perspective of PhD Students</b></p> <p><b>Prof. Ana Borovecki</b>, University of Zagreb, Zagreb, Croatia, <b>Aleksandra Nadiradze</b>, PhD Candidate, DTMU, Tbilisi, Georgia</p>
15:00 – 16:00	<p><b>Lunch Break</b></p> <p>Ongoing Poster Session Evaluator: <b>Prof. Nebojsa Lalić</b>, Faculty of Medicine of Belgrade University, Belgrade, Serbia</p>

# PROGRAM

16:00 – 16:30	<p><b>ORPHEUS Pathway: Past, Present and Future</b> Chair: Sergo Tabagari - Prof. DTMU, Tbilisi, Georgia</p> <p><b>Prof. Zdravko Lackovic</b>, ORPHEUS Founding President, Zagreb University, Zagreb Croatia - <b>Organization Supporting/Contributing Universities through Providing Best Practices “in Research on Research” Since 2004</b></p> <p><b>Prof. John Creemers</b>, President of ORPHEUS, KU Leuven, Leuven, Belgium <b>ORPHEUS Future Plans</b></p>
16:30 – 18:00	<p><b>ORPHEUS General Assembly</b> <i>(attending only members)</i></p>
20:00 – 23:00	<p><b>Gala Dinner</b></p>

## DAY 3: SATURDAY 20 April, 2024

### Session 3A

10:00 – 10:40	<p><b>Keynote Presentations:</b> Chair: Harm Peters - Prof, President of AMSE</p> <p><b>Assoc. Prof. Subha Ramani</b>, AMEE, President, Harvard Medical School - <b>Pursuing a Doctoral Programme Successfully: A Primer for Clinical Educators</b></p>
10:40 – 11:30	<p><b>Short Communications 3</b> Chair: Tinatin Zurashvili - Assoc. Prof. DTMU, Tbilisi, Georgia</p> <p><b>Evaluating the Quality and Quantity of Thesis-Related Publications After ORPHEUS Label at Hacettepe University</b> – Prof. Muge Yemisci, Hacettepe University, (Ankara, Türkiye)</p> <p><b>What Do PhD Students and Advisors Expect from Each Other? Examining Expectations in Doctoral Student-Advisor Relationships</b> - <i>K.M Guven, PhD Candidate, Acibadem University, (Istanbul, Türkiye)</i></p> <p><b>Navigating Challenges in PhD Education at TSU Faculty of Medicine: A Path Towards Regulatory Reform and Inclusivity</b> - Prof. D. J. Kordzaia, TSU, (Tbilisi, Georgia)</p> <p><b>An In-Depth Analysis of the Impact of ORPHEUS Label in the Physical Therapy and Rehabilitation Field</b> - Prof. Muge Yemisci, Hacettepe University, (Ankara, Türkiye)</p>

# PROGRAM

11:30 – 12:00	<b>Coffee Break</b>
12:00 – 12:40	<p><b>Keynote Presentations:</b> Chair: Joana A. Palha - Prof, School of Medicine, University of Minho, Braga, Portugal</p> <p><b>Assoc. Prof. Ken Masters</b> – Medical Informatics, CoM&amp;HS, Sultan Qaboos University, al-Seeb, Oman</p> <p><b>Empowering PhD Education in Biomedicine and Health Sciences: Navigating the AI Revolution</b></p>
12:40 – 13:00	<p><b>ORPHEUS EC report: ORPHEUS Survey on Doctoral Programs: A Preliminary Analysis:</b> Chair: Melita Kovačević – Prof. University of Zagreb, Zagreb Croatia</p> <p><b>Prof. Damir Sapunar</b>, ORPHEUS Secretary, University of Split, Split, Croatia</p> <p><b>Are Our Doctoral Programs Merely Vocational Schools? Insights from the Orpheus Survey Report</b></p>
13:00 - 13:15	<b>Flag Ceremony, Presenting Next Conference</b>
13:15 -14:00	<b>Lunch</b>
15:00	Social Program – Recommend on Website Few Additional Things for Participants

## ABSTRACTS – INVITED SPEAKERS PANEL SESSION

### Research Assessment Reforms in ORPHEUS Member Universities

#### **Professor John Creemers**

*President of ORPHEUS, KU Leuven, Belgium*

With more than 125 members universities, ORPHEUS represents a diverse group of Doctoral Schools. Abiding by the ten commitments described the Coalition for Advancing Research Assessment (CoARA) poses therefore different challenges to all. During self-assessments and site visits to obtain the ORPHEUS certificate or label, the organisations' autonomy has to be taken into consideration. However, the recommendations described in the ORPHEUS best practices document are compatible with the CoARA commitments. In this presentation, I will give some specific examples of challenges and solutions.

### How Universities and/or Doctoral Schools Can Respond on EUA Agreement Establishing a Common Direction for Research Assessment Reform, while Maintaining Organizations' Autonomy

#### **Prof. Harm Peters**

*President of the Association of Medical Schools in Europe (AMSE)*

Medical research is a key function of medical schools and universities in Europe and beyond. The vision of AMSE, the Association of Medical Schools, is to promote the quality of management,

## ABSTRACTS – INVITED SPEAKERS PANEL SESSION

medical education and research in medical schools throughout Europe. Our current practice in medical research is experiencing a deep crisis of trust. A key feature of this is the so-called “reproducibility crisis”, a term that refers to the widespread concern that many scientific studies, particularly in the field of biomedicine, cannot be replicated or reproduced by other researchers. The reliability and credibility of scientific findings are compromised not only by a lack of replication studies, but also by a lack of transparency, small sample sizes, selective reporting, and publication bias.

Closely related to the trust crisis in medical research is the current practice of using metrics to evaluate scientific research and researchers, such as the impact factor of journals and the h-index of individual scientists. While these metrics are intended to measure the quality and impact of research, they may inadvertently contribute to the crisis through impact factor pressure, the h-index in the evaluation of researchers, the neglect of negative or replication studies, and the quality versus quantity dilemma. The mission of AMSE is to improve the standards in research and its value and relevance for all medical schools in Europe. AMSE therefore supports efforts to address the reproducibility crisis in medical research, in particular the EUA agreement to establish a common direction in the reform of research assessment and the - Coalition for Advancing Research Assessment (CoARA) initiative.

## ABSTRACTS – INVITED SPEAKERS PANEL SESSION

### **Balancing Common Direction for Research Assessment Reform and Organizations` Autonomy**

**Subha Ramani, MBBS, PhD, FAMEE**

*President of AMEE- The International Association for Health Professions Education*

*Associate Professor of Medicine, Harvard Medical School*

Research assessment has been categorised under three broad areas: assessment of research performing organisations and research units; assessment of research projects by assessment authorities; and assessment of individual researchers and research teams. Key points from the EU statement on reforming research assessment will be summarised and practical implications of these statements will be discussed such as: balancing organisations' autonomy and safeguarding freedom of scientific research with application of common standards for research assessment; recognition of a variety of outputs that contribute to quality and impact; and the importance of qualitative metrics in judging quality

### **Rethinking Research and Academic Career Assessment: the Role of Universities**

**Professor Stephane Berghmans**

*Founders of CoARA coalition and author of EUA Agreement,*

*EUA-CDE*



## **The Coalition for Advancing Research Assessment (CoARA): First Outcomes of a Global Initiative for a Systemic Change of Research Assessment**

**Menico Rizzi**

*University of Piemonte Orientale, Italy and CoARA*

There is a broad consensus among research communities worldwide that the existing tools of academic rewards and recognition criteria, such as h-indexes or the weight of publisher prestige, in particular if determined on the basis of indicators such as the journal impact factor, have ceased to accurately reflect what we most value in, and need from, research. A wide range of innovative, born-digital scholarship such as databases, visualisations, software development, or contributions to research infrastructures, are still invisible from formal research administration and assessment. Besides, beyond focussing solely on the end products of research, in the Open Science paradigm, it is also clear that it is the integrity and transparency of research processes that, at the end, lead to truly innovative, open and high-quality research; therefore it is essential that a qualitative-centered approach and not a quantitative one, must characterize research assessment activities. Building on progress made so far (DORA, Leiden Manifesto, Hong Kong Principles), over 700 research organisations, funders, assessment authorities, professional societies, and their associations have agreed on a common direction and principles for reforming the assessment of research, researchers and research organisations, outlined in the Agreement on Reforming Research Assessment (ARRA). They commit to a common vision, which is that the assessment of research, researchers and research organisations recognises the diverse outputs, practices and activities that maximise the quality and impact of research. This requires basing assessment primarily on qualitative judgement, for which peer-review is central, supported by responsible use of quantitative indicators. They also pledge to disclose their progression in

## ABSTRACTS – INVITED SPEAKERS PANEL SESSION

evaluating or constructing criteria, tools and procedures, aligned with the core commitments and following an action plan with milestones defined by the community, by the end of 2023 or within one year of signing the Agreement and they can join the Coalition of Reforming Research Assessment (COARA), a global coalition that offers a platform for member organisations for collaboration and mutual learning. It was founded in December 2022 and as of March 2024, 13 Working Groups and 15 National Chapters has been established within CoARA to facilitate exchange and develop resources that member organisations can rely on in their reform journeys. The COARA initiative started in Europe and is growing—as it must for an equitable global system of research. Keeping the essentially global, transnational nature of research in mind, the mobility of researchers and ideas, enabling a systemic change is impossible without the involvement of research and research-related institutions in the broadest possible scope.

One of the key elements of the Coalition’s activities is the involvement of the “Early-Medium-Career-Researchers” (EMCRs), that are subject to precarity and strong competition. EMCRs is indeed a vulnerable group, heavily affected by assessment policies and procedures. Care needs to be taken to avoid any potential negative impact on EMCRs, deriving from a reform of research assessment. It is therefore vital that ECMRs are deeply involved from the very beginning, to better navigate and most of all to actively participate in shaping such a complex process.

## ABSTRACTS – INVITED SPEAKERS PANEL SESSION

### Can the PGME Standards of the WFME Be Used for PhD Programs?

**Ricardo León-Bórquez**

*President, WFME*

As one of its functions in supporting medical education, the World Federation for Medical Education (WFME) develops, publishes and supports the implementation of standards for all stages of medical education. We also offer standards for specific aspects of that education, as needed. Accordingly, we developed standards for distributed and distance learning to help education and training to continue during the COVID pandemic and afterwards.

Our general standards currently address basic medical education, postgraduate medical education (PGME) and continuing professional development (CPD). Being aware of the growing feeling that medical education should be suitable for its context, we have revised them to be principles-based rather than prescriptive. This revising process will be complete by the end of 2024.

At the university level, WFME also offers standards for master's degrees. To date, we have not addressed PhDs, although that would make a logical progression and completion of our set of standards. PhDs have specific academic purposes and qualities that are different from the clinical purposes and contexts of PGME. A PhD is also different from a master's degree that has a curriculum, is structured around specific educational processes, and manages students in cohorts.

Although a PhD might have some aspects in common with other stages of academic education, it is fundamentally a process of individual development of the candidate, based on the conduct of a research project, and a relationship with a supervisor, perhaps within a research group. But practice differs around the world, and from department to department. WFME therefore believes that a

## ABSTRACTS – INVITED SPEAKERS PANEL SESSION

set of principles-based standards specifically for PhDs would be required. Since WFME is concerned only with medical education, such standards would address PhDs in medical education, rather than PhDs in other scientific or clinical areas.

### **To ensure global relevance, the process that WFME adopts in developing its standards includes:**

- Assembly of an international team of experts in standard writing and the subject matter of the standards.
- A literature and desk review to ensure that we understand the issues, evidence, and the wide range of international practice in the relevant area.
- Standards, along with guidance and key questions, are then drafted by the team through at least three iterations.
- Consultation on the final draft with about 200 stakeholders.
- Preparation of the final draft for publication.
- Approval by the WFME Executive Council.
- Publication and collection of comments received, and routine review to ensure continued relevance.
- Ongoing support in the form of webinars and other advisory services.

### **To develop standards for PhDs would require the same process.**

#### **WFME standards for PGME address:**

- Mission and values
- Curriculum
- Assessment
- Selection and looking after the learners
- Teachers and clinical supervisors
- Education and training resources
- Quality improvement systems
- Governance and administration

## ABSTRACTS – INVITED SPEAKERS PANEL SESSION

Although standards for PhDs must address these areas, what those standards suggest would be different for PGME and PhDs. In addition, the unique features of PhDs must be addressed, including:

- The design and organisation of doctoral programmes
- Ethical approval
- Legal and regulatory frameworks
- Registration, course of study and progress
- The supervisory role and relationship.

### **Fostering a Supportive Academic Environment: Ombuds Services at the Doctoral School of Biomedical Sciences**

**Eva Boffé**

*Policy Advisor for the Doctoral School of Biomedical Sciences  
KU Leuven*

In fostering a successful doctoral journey, creating a supportive environment is paramount, relying on the mutual commitment and positive relations among PhD researchers, supervisors, and colleagues. The role of the doctoral ombudsperson is crucial in shaping this environment and navigating the challenges that may arise. At the Doctoral School of Biomedical Sciences, KU Leuven, five ombudspersons have been appointed for ~1700 PhD researchers.

The doctoral ombudsperson serves as the first point of contact for both PhD candidates and supervisors, helping in addressing disputes and concerns related to the doctoral process. Beyond academic matters, the ombuds provides support for general or personal issues, including stress, work-life balance, and integration difficulties.

In fulfilling their role, the doctoral ombudsperson acts neutral, upholds confidentiality if requested, and works discreetly to provide a low-threshold entrance for individuals to voice concerns impacting the doctoral process. The ombuds can mediate between parties, clarify misunderstandings, and facilitate mutually acceptable solutions.

For issues unrelated to the PhD process, the ombuds can refer individuals to KU Leuven's Unit of Confidence, addressing inappropriate behavior, psychosocial challenges, and mental health problems with professional confidentiality.

All cases are discussed annually between the ombudspersons and an anonymized report is presented to the executive committee. In addition, graduated PhD researchers can rate their supervisors in an exit poll. Supervisors with recurrent issues are addressed, with the consent of the case reporter(s), to resolve concerns or undergo mandatory remedial training.

The ongoing and future challenges for the ombuds services include efforts to lower the threshold for the target group and focus on preventative measures. Additionally, they aim to ensure confidentiality, facilitate effective communication flow among various services, and consider supervisory skills as a criterion for the promotion of supervisors. These initiatives collectively contribute to the continued improvement of the doctoral experience within the academic community.

### **PhD School's Role in Building Ecosystems Where Inventors, Business Professionals, Funding Bodies and Other Key Players Can Collaborate to Speed up Innovations**

**Robert A. Harris,**

*Karolinska Institutet, Stockholm, Sweden*

Universities have a mandate to develop the next generations of educators, researchers and innovators. Research innovations and their translation into the clinic are currently revolutionizing the fields of medicine and biomedicine, not least with new AI-mediated technologies, and the impact of these innovations is already evident in society. Universities should provide an ecosystem in which opportunities for learning, interdisciplinary research, knowledge exchange and networking opportunities converge to achieve this goal. Interdisciplinary training programs, industrial partnerships,

intellectual property management and entrepreneurial support as well as provision of appropriate infrastructure and resources to promote innovation are all central aspects to this cause. A supportive university culture in which innovation is both understood and encouraged, and the hosting of a diversity of events will permit development of innovation networks and platforms. At the same time, Universities have an important role not to encourage 'innovation at all costs', as clinical translation of innovative research is a particularly challenging process. Conversely, the technological advancement currently occurring in research science provides previously unprecedented opportunities for innovation. How Universities can organize PhD schools to balance the expectation of delivering new generations of innovative educators and research scientists, and at the same time facilitate the promotion of diverse career trajectories will be discussed.

### **What Do PhD's and Their Supervisors Need to Be(come) Responsible Researchers? Innovations in RCR Training in Rapidly Changing Research Practices.**

**Prof. Dr. Mariëtte vd Hoven**

*Amsterdam University Medical Centre, Dep Ethics, Law and Humanities*

[m.a.vandenhoven@amsterdamumc.nl](mailto:m.a.vandenhoven@amsterdamumc.nl)

In recent years, the demands on PhD education are rapidly increasing. Where in some disciplines and countries the formal education of PhD's (with a dedicated number of EC credits) was limited to courses on academic English, or methods courses, nowadays at many institutions, each PhD has to take agree on an educational plan from the start. Amongst the courses that need to be taken is a mandatory course on research integrity [1]. The relevance to offer integrity training to PhD candidates is empha-



sized in multiple codes of conduct and in policy documents. [2,3] In this presentation, I will show recent developments in the field of training of responsible conduct of research and what current challenges are [4]. First, due to increased quality standards and developments in research practices, the competence profile for trainings has become more complex.[5] Next to hard skills on e.g. data management, open science and methodology soft skills have become equally important (focusing on e.g. the well-being of PhD students and on power dynamics in supervision). Also, it is pivotal that a teaching philosophy is chosen towards the training. One example of such a teaching philosophy is to consider empowerment as a core focal point, another to take a virtue approach. [6] Secondly, our knowledge on the duration, content and working methods for trainings increases, helping us to decide what 'works' and what not. [7,8] This should help us in stimulating high quality training. Thirdly, in the literature it is frequently pointed out that the mentoring and coaching impact of supervisors is huge, hence that in striving to create more responsible research practices, supervisors should also be addressed and take courses on responsible conduct of research themselves. [9,10] This, it is argued, stands in a context of researcher assessment where life-long learning is also relevant for career paths. I conclude with some examples of trainings and modules.

## ORPHEUS LABELLING

### **Gül Akdoğan**

*(School of Medicine, Izmir University of Economics, Turkey)*

### **Michael Mulvany**

*(Aarhus University, Denmark)*

### **Joana Palha**

*(School of Medicine, University of Minho, Portugal)*

Within its mission, ORPHEUS intends to provide its members with instruments of quality assurance. For that purpose, ORPHEUS provides an assessment process, in which the various aspects of graduate training are evaluated considering the guidelines of the Best Practice document. Institutions intended to undergo this process, will receive feedback from their procedures and on whether they comply with the recommendations. When the key aspects are fulfilled, a label is issued, certifying compliance with the Best Practices.

In this presentation we will update on the history of the labelling procedure, the Guidelines of Best Practices (including basic recommendations, quality development, and some annotations) and highlight the main challenges and benefits that institutions, their programs, students and staff undergo towards achieving excellence.

### **ORPHEUS' TWENTIETH BIRTHDAY: "Organization Supporting/Contributing Universities Through Providing Best Practices in Research on Research Since 2004"**

#### **Professor Zdravko Lackovic**

*MD, PhD, ORPHEUS Founding President (2004-2014), Honorary Member (2014), University of Zagreb School of Medicine, Croatia*

ORPHEUS was founded in April 2004, exactly 20 years ago. This anniversary deserves a reminder of achievements and dilemmas, some still present today. The university or any government body did not initiate the first steps towards establishing ORPHEUS. Instead, it was an entirely "bottom-up" initiative of a few individuals. The need to exchange information and the experiences of others arose already at the beginning of the Ph.D. program at Zagreb University School of Medicine (1988/89). This idea was presented (ZL) and supported internationally for the first time at the Annual Assembly of the Association of Medical Schools of Europe (AMSE) in Prague in 2003. Thus, in 2004, after discussion, representatives from 25 faculties from 16 European countries voted point by point and adopted a consensus document called the "Zagreb Declaration." It was the first European document that defined Ph.D. programs as research-based studies and Thesis as the outcomes of that research. The project of the Croatian National Science Foundation (2005, to Z. L.) made it possible to hold the Second Conference (April 2005), where representatives of 33 faculties from 21 European countries adopted "Guidelines for Organization of Ph.D. programs in Biomedical and Health Sciences." The fundamental concepts outlined in these two consensus documents are also featured in additional ORPHEUS documents. Most of the local costs (there were no participation fees) of the Second Conference, the creation of the Statue (Dubrovnik 2006), and the "Standards" (Zagreb 2010) were also covered mostly by the project mentioned above. Without these trivial details, establishing ORPHEUS would not have been possible. In the following years, the number of con-

ference participants grew like a snowball, so in 2011, there were 305 participants in Izmir, representing 99 institutions from 39 European countries. The funds grew from zero Euros in 2004-2006 to almost 100K Euros. The websites were launched in 2008 by ZL as the editor and webmaster, quickly attracting hundreds of daily visitors. The doctoral study was recognized as the “third cycle of high education” at the ministerial conference in Bergen (2005), but there was ambiguity about its organization. ORPHEUS was created at the right time, although in a place that few expected.

1. However, the introduction of the concept of a “third cycle “ has led to the creation of doctoral programs in European universities that lack the necessary infrastructure or experience to conduct research education programs.
2. Another challenge that has not been resolved in the first ten years is the question of the inclusion of clinical and public health research, which are experimental, observational, interventional, and epidemiological... Even a superficial look at the publications (PubMed, Scopus, WoS) of medical and related faculties in Europe indicates the dominance of clinical methods. The same holds true for a PhD thesis.
3. The current European focus on new ways of research assessment provides the “third cycle” a chance to evaluate contributions what they could not do until now. Is it necessary for someone to lead and coordinate this undertaking whose outcome is uncertain?

### The Future of ORPHEUS

#### **Professor John Creemers**

*President of ORPHEUS, KU Leuven, Belgium*

20 year ago, doctoral education in Europe was so diverse that it was virtually impossible to compare a doctoral degree between nations. Doctoral harmonization and safeguarding the PhD as a research degree were the main starting points for ORPHEUS in 2004. Although other organizations like LERU and EUA-CDE have similar objectives and interests, ORPHEUS has kept his unique edge which sets it apart from the other organizations. First of all, its focus on biomedical and health sciences is necessary to meet the special circumstances and needs of doctoral candidates and supervisors in university hospitals. Clinical PhD programs and basis/translational research in a medical setting cannot easily be compared with e.g. a doctorate in social sciences. Second, ORPHEUS aims to help both starting and advanced Doctoral Schools by discussing the latest trends and developments in doctoral education during its annual meetings and by sharing tools and information on its website. Third, it provides training, both online and in-person, to its members on topics like 'supervisor training'. Finally, it gives its member the opportunity to self-reflect via its best-practices document and labeling procedure. These unique aspects of ORPHEUS remain valuable anno 2024. The EU has launched major initiatives like international doctoral networks (MSCA-DN) and transnational alliances of higher education institutions through European University Initiatives. These 'universities of the future' require further harmonization and removal of legal obstructions imposed at the national level. However, we should not ignore the national diversity and differences in needs, opportunities, and career perspectives for doctorate holders.

### **Pursuing a Doctoral Programme Successfully: A Primer for Clinical Educators**

**Subha Ramani**

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*President of AMEE- The International Association for Health Professions Education*

*Associate Professor of Medicine, Harvard Medical School*

Clinical professionals, who pursue a doctoral degree in health professions education, frequently engage in part time studies while carrying out most of their clinical duties. The advantage of this scenario is that they can identify problems and conduct research that is relevant to their educational setting and practice. The disadvantage is that clinical duties require major time commitment and often unpredictable in day-to-day tasks. Strategies for effective completion of a PhD programme while contributing to meaningful and impactful scholarship could be categorised under 3 main domains: individual, interactional and systems. Underpinned by the Dundee 3-circle model, we will start with practical strategies for individual PhD students to acquire requisite research skills, seek effective mentorship and coaching, and be self-directed learners. We will conclude with tips to navigate the needs of the home clinical environment as well as the learning environment of the degree granting institution.

### **Empowering PhD Education in Biomedicine and Health Sciences: Navigating the AI Revolution**

**Ken Masters**

*Medical Informatics, CoM&HS, Sultan Qaboos University, Oman*

In Biomedicine and Health Sciences Education, Artificial Intelligence (AI) has emerged as a transformative force, reshaping research methodologies, educational paradigms, and career prospects for PhD students and graduates. This keynote address aims to describe the current state of the relevant AI, its applications in related fields, the future horizon of AI-driven tools and technologies, and the broader implications of AI for Biomedicine and Health Sciences PhD students, both in their studies and in their career prospects.

The presentation will commence with an overview of the advancements in AI and its implications for research and education in Biomedicine and Health Sciences Education, and will explore current AI technologies and tools. The address will then discuss emerging AI technologies and their potential impact on Biomedicine and Health Sciences PhD programs.

The presentation will then describe some of the disruptive implications of AI on the job market for Biomedicine and Health Sciences PhD graduates, with possible strategies for adapting to the evolving landscape. This will include a description of forecasted opportunities and career paths presented by AI for Biomedicine and Health Sciences PhD graduates.

This presentation aims to inspire a proactive approach to AI integration into Biomedicine and Health Sciences PhD education, fostering a generation of graduates who are not only adept at navigating the challenges of the AI revolution but also poised to leverage its opportunities for advancing healthcare and scientific research.

### **Are Our Doctoral Programs Merely Vocational Schools? Insights from the Orpheus Survey Report**

**Damir Sapunar**

*ORPHEUS Secretary, University of Split, Croatia*

Doctoral education is widely regarded as the highest level of formal education in many fields of study. This level of education should reflect the individual's ability to perform independent research, contribute new knowledge to their discipline, and adhere to stringent academic criteria. It also should serve as a foundation for lifelong learning, allowing doctoral holders to expand their knowledge through further research and professional growth.

However, the suitability of doctoral programs for achieving desired educational objectives is currently under scrutiny. It's uncertain if doctoral programs are grounded in evidence-based practices and societal needs. As members of academia directly involved in the process of doctoral education, we must reflect on our effectiveness, our goals, and the careers of our alumni. To address these questions, Orpheus EC initiated a series of surveys targeting teachers, students, and administrative staff within the Orpheus membership.

We often state that we aim to educate doctoral candidates to become independent researchers and problem solvers, with curricula evolving to address the demands of the global job market. Yet, there's a risk of doctoral programs becoming overly vocational, neglecting broader educational aims that equip students for both academic and non-academic careers. Orpheus survey findings indicate a predominance of specialized knowledge and research-focused training, with less emphasis on skills like entrepreneurship, understanding employment contexts, and critical thinking. This trend suggests a misalignment with the broader competencies required in today's diverse career landscape.

Currently, the scientific community faces numerous challenges, including the reproducibility crisis, research misconduct, and a



lack of commitment to data management and sharing principles. These issues indicate a shortfall in how students are prepared for responsible academic careers. Furthermore, doctoral education seems to diverge from principles of social responsibility, a foundational element of the European Magna Charta Universitatum. This gap is evident in the insufficient response to societal issues, such as the rise of antisemitism on some campuses or disorientation regarding the war in Ukraine, highlighting a failure to foster a socially sensitive academic culture. Inadequate doctoral programs, especially in the biomedical sciences, risk narrowing the scope of education, limiting the development of creative thinkers who view their work through a social responsibility lens.

Here I propose reforms to instill a more comprehensive education, including liberal arts, aimed at producing not only skilled professionals but also informed citizens capable of understanding complex realities. This should be achieved not by overburdening the existing curriculum but by immersing doctoral students in real-life societal problems. Researchers educated in a broad range of disciplines, and attuned to societal issues, are likely to approach science more thoughtfully. Such an education will also foster humanity, openness to diverse perspectives, and readiness to engage in democratic societies. It will help navigate today's challenges, characterized by a climate of post-truth, fake news, and increased bipartisan hostility. This approach is essential for preparing individuals for leadership and active participation in a pluralistic and globalized world.

### **An Overview of the Current State of Turkish Member Graduate Schools of Health Sciences and Their Expectations from ORPHEUS**

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Turkish universities have shown a great interest in ORPHEUS since its inception. Presently, there are 21 ORPHEUS-member graduate schools of health sciences in Türkiye, with five awarded the ORPHEUS label and two receiving certificates. Two institutions hosted the Annual Conferences in 2011 and 2022. This study aimed to describe the current state of ORPHEUS Members in the country and collect their opinions and suggestions on ORPHEUS as a platform to promote research-based PhD education. All ORPHEUS-member graduate schools responded to a 17-question online questionnaire. The average number of PhD candidates at these institutions was 402, served by an average of 35 PhD programmes/institution. Critical changes materialised in the governance of graduate programmes owing to the labelling process. One significant change is the increase in the time allocated to research. Other significant changes include revoked voting rights of the supervisor, publication requirement in indexed journals, mandatory supervisor training and signature of a supervisor-candidate agreement, ear-

ly appointment of the supervisor, regular supervisor-candidate meetings, structured transferable skills training, increased number of international candidates, increased scholarship opportunities. Graduate schools expect ORPHEUS to raise awareness of the Best Practices beyond the member institutions and lobby at the level of Turkish Higher Education authorities and university administrations to promote ORPHEUS best practices. They also want to see more PhD training activities and collaboration in research among members. The results of this questionnaire show that the winds of change observed in Turkish PhD training in Biomedicine and Health Sciences over the last 15 years are markedly driven by ORPHEUS. Being a member of ORPHEUS has become a token of the betterment of PhD education and created a push forward for implementing ORPHEUS best practices in a broader context. Such a development could set a model for other countries that need to develop their PhD training practices.

### **Implementation of Honoring the Most Successful PhD Theses: A 5-year Analysis at the Faculty of Medicine, University of Belgrade**

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**Background:** Starting with the academic year 2017/2018, the Faculty of Medicine, University of Belgrade (FMUB) implemented the annual practice of honoring the most successful PhD theses. The award is given to the candidates (and their supervisors) whose cumulative Impact Factor (IF) of the dissertation-related published

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papers exceeds 5, and is announced at the annual PhD Day. The aim of this study was to evaluate the outcomes and temporal trends during 5 years of the honoring practice.

**Methods:** Data on all honored theses (candidate, PhD supervisor/s, scientific field/subfield, number of dissertation-related articles that were published in JCR-indexed journals and their cumulative IF) were extracted from the electronic records of the Department for PhD studies, FMUB.

**Results:** The total number of honored candidates was 42 (25 women and 17 men), including 6 in 2017/2018, 3 in 2018/2019, 7 in 2019/2020, 9 in 2020/2021, and 17 in 2021/2022. The number of awardees per year showed a rising trend ( $r=0.84$ ,  $p=0.07$ ), especially in the fields of public health ( $r=0.99$ ,  $p=0.001$ ). Regarding the distribution among different fields, 17, 14, and 11 awardees were from basic/translational, clinical, and public health fields, respectively. The most successful subfields were molecular medicine ( $n=6$ ) and physiological sciences ( $n=5$ ) among basic/translational fields, cardiology ( $n=6$ ) among clinical fields, and epidemiology ( $n=6$ ) among fields of public health. Twenty-one candidates (50%) had more than one PhD supervisor, and one had an international co-supervisor. The cumulative IF showed a nonsignificant increase during these 5 years ( $r=0.49$ ,  $p=0.4$ ), but in the last year, two and one individuals had a cumulative IF of 10–20 and above 20, respectively.

**Conclusions:** The number of honored theses is increasing steadily, which may reflect an increasing quality of PhD research and growing motivation of the candidates to publish in international journals

### Interdisciplinary Hubs of Academic Collaboration : The Case of One Health within Una Europa

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**Background:** When the European University Initiative was launched (2019), alliances of higher education institutions were created to enhance global strategic cooperation in education and research. One such alliance is Una Europa. Academics, researchers and students across this network interact and work together in five focus areas: Cultural Heritage; Data Science and Artificial Intelligence; Europe and the World; Sustainability and One Health. Key objective: the creation and implementation of a joint research and innovation agenda.

**Approach:** This future-oriented collaboration in research and innovation focuses on providing multidisciplinary research opportunities, establishing an educational model focused on inclusivity and multilingualism across borders, with innovative science communication and intensified public engagement as crucial ingredients. The alliance thus aims to contribute to the transformation of the European Higher Education Area and the European Research Area.

This Orpheus session reports on Lessons Learnt within the One Health focus area.

1. By addressing major health challenges arising from the complex interactions between living organisms and their ecosystems in the network, recalibration of previous conceptual and methodological repertoires is possible, sharpening multidisciplinary and multisectoral approaches.

2. Through the strengthening and diversification of the academic network in the field, not only settled researchers have found each other across traditional borders. Early career researchers, on PhD and postdoc level, also get an unprecedented opportunity to familiarize themselves with this interdisciplinary field and to construct an innovative network.

**Results:** We zoom in on how, for KU Leuven, a renowned research-intensive university in Belgium, the Una Europa collaboration within the One Health focus area and the implementation of those high-aiming objectives has, ultimately, led to the creation of an entirely new strategic research institute, offering ample opportunities to early career researchers.

### Preparing Leaders in Biomedicine through an Innovative Doctoral Curriculum Approach

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One of the challenging issue in developing countries is the deficit of collaborative opportunities and leadership in biomedical research. To address this problem, the Doctoral Program of Biomedical Science Faculty of Medicine Universitas Indonesia, has introduced the new “Leadership and Research Collaboration” module. This curriculum innovation aims to equip students with essential leadership competencies alongside scientific expertise, preparing them to lead inter-institution projects as well as become innovator in their future research careers. Expert professionals with a track record of significant research leadership at both national and international levels provide mentorship to the stu-

dents, focusing on practical challenges in their ongoing doctoral projects and grants. The method approach includes role-playing as a project leaders in their current projects, promoting direct engagement with problem-solving and project management. An end-of-semester evaluation from survey, questionnaire and the progress data, demonstrates a significant boost in students' leadership capabilities, notably in communication with supervisors, research teams, and collaborative institutions, as well as in project time management, outperforming those who did not participate in the module. Furthermore, the module's popularity among post-graduates from various institutions emphasizes the critical need for leadership education in the biomedical sector. Over the last two semesters, a considerable number of attendees are hailing from outside of our program, indicating broad-based appeal. We believe that this module promises to cultivate the next generation of leaders in the biomedical field in Indonesia.

### **Uncovering and Addressing Undesirable Practices along the PhD Trajectory: Signaling, Escalation and Action Plan**

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Unfortunately, undesirable practices along the PhD trajectory are often overlooked and remain unaddressed. Current reporting mechanisms are insufficient because of their high threshold and the perceived potential repercussions of filing an official, not anonymous complaint. Therefore, they fail to detect (under)currents of dissatisfaction and undesirable practices at research departments. To overcome these issues, the Amsterdam UMC Doctoral School has set up a Signaling, Escalation and Action (SEA) plan.

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The SEA plan describes how recurrent problems among supervisors or research department are detected at an early stage by monitoring cases that are brought to the Confidential Committee: a collaboration between parties that receive information about undesirable practices along the PhD trajectory (signaling). Furthermore, it describes when these cases are escalated to the manager of the Doctoral School (escalation) and the action plan that is drafted and executed with the department head or dean (action). The action plan includes monitoring the situation to assess improvement over time. Importantly, the plan also entails how the identity of the concerned PhD candidates may be best protected.

As the SEA plan in its current form is new, the results remain to be established. However, a previous version of this plan has led to some positive changes at departments where supervisors were confronted and where efforts to change were made, such as training of the staff on social safety. This previous plan was insufficient as it was solely based on cases brought to the PhD advisors – neglecting other information sources – and it lacked clear action steps and monitoring of improvement. These key lessons led to the current SEA plan, which is a great improvement by the strength of collaboration as well as a clear course of action to create a better research climate and guarantee social safety within the PhD system of Amsterdam UMC.



### Academic Integrity Challenges and Solutions in the Age of Generative Artificial Intelligence

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**Background:** The integration of generative artificial intelligence (AI) tools like ChatGPT has sparked discussions among educators in medical schools regarding academic integrity and the authenticity of student work. As AI technology rapidly evolves, educators face the challenge of upholding academic standards while embracing technological advancements. This abstract provides an overview of the practical challenges encountered by educators in medical education and the strategies implemented to address them.

**Approach:** We explored alternative assessment methods designed to emphasize the learning process and promote student engagement within the context of medical education. Strategies such as adaptive assessment briefs, confirmatory vivas, and showcase events for student presentations have been utilized to maintain academic integrity. Additionally, oral assessments have been employed to cultivate critical thinking skills and deepen student comprehension of medical concepts.

**Results:** The implementation of alternative assessment methods has facilitated significant shifts in academic practices within medical education settings. These changes have led to an increased emphasis on the learning journey and individualized student involvement. Through the adoption of these methods, educators have observed heightened student engagement and a more profound understanding of course material. By aligning assessment strategies with learning outcomes, academic integrity is strengthened, and students are empowered to take ownership of their learning experiences.

**Lessons Learned:** Our experiences have underscored the importance of prioritizing the learning process, integrating personalized learning activities, and fostering collaboration among educational teams within medical schools. These insights highlight the necessity of adapting to evolving technological landscapes while maintaining academic standards and promoting student success in research skills development at the School of Medicine.

### **Effectiveness and Efficiency of Using E-learning Management System for Doctoral Education at Universitas Indonesia**

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Doctoral education in biomedical science is full of in-depth research to build new knowledge or discover innovative work to improve human health. At Universitas Indonesia, it is also possible for doctoral students learn about general topics such as research methodology and ethics as well as specific topics related to their research which is designed by their supervisors. We monitor the ongoing research as well as structured- or nonstructured lecture activities through the e-learning management system (EMAS) developed by our university. This learning management system provides many features to make it easier for lecture to submit learning materials and evaluate learning or research achievement from their students; as well as for student to report learning and research activities. Students can also discuss with lectures through synchronous and asynchronous learning methods in this system. There are more than 10 features available for lecture to use this system, including H5P feature for interactive video; and for stu-

dent there are 5 features for their learning and research activities. To determine the effectiveness and efficiency of using EMAS, we conducted a survey of students and lectures. About 70% of our students used EMAS more than 4 times per semester and found this e-learning system very helpful, user friendly and makes it easier to participate in academic activities, such as downloading course materials, submitting course assignments and research progress reports. The survey showed not all lectures use this e-learning system independently with various obstacles, such time availability and ability to understand the features of this system. Study program managers assists lectures in using this system for optimization of educational process for doctoral students. The use of this e-learning system needs to be improved by providing information about features and how to use it to enhance the effectiveness and efficiency of doctoral education process.

### **Perceptions and Expectations on the Integration of Technology and Large Language Models in PhD Education: A Comparative Study of PhD Candidates and Supervisors**

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**Background:** The integration of technology and large language models into postgraduate education presents a potential para-

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digim shift in research methodologies, PhD candidate-supervisor interactions, and the overall academic experience. This study aims to evaluate perceptions and expectations among PhD candidates and their supervisors regarding these innovations, specifically focusing on the role of technology and large language models in enhancing the quality of PhD education.

**Material and Methods:** Two separate questionnaires with the same 20 multiple-choice questions were conducted electronically among a sample of PhD candidates and their supervisors. The surveys included questions on preferred technologies for improving research processes, effective data analysis tools, the impact of current technologies on research methods, and the perceived innovative contributions of large language models to PhD education. Responses were analyzed to compare the perspectives of PhD candidates and supervisors on these topics.

**Results:** Both PhD candidates and supervisors identified artificial intelligence, specifically large language models, as key to enhancing the research process. However, preferences for data analysis tools diverged, with PhD candidates favoring Python and supervisors indicating no clear preference. There was consensus on the potential of digital technologies to improve experimental designs and quantitative research. Interestingly, while PhD candidates were excited about automatic article summarization, supervisors showed a broader range of expectations, including improvements in academic writing style and research trend analysis.

**Conclusion:** The findings suggest a strong interest and positive outlook among both PhD candidates and their supervisors on the incorporation of technology and large language models into PhD education. However, the variation in specific preferences and perceived benefits underscores the need for tailored educational and technological support to maximize the potential of these innovations. Continued dialogue and collaboration between PhD candidates and supervisors will be essential in effectively integrating these technologies into PhD research and education.

### **Strengthening PhD Education in Health Sciences: Transferable Skills**

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This study investigates to explain how different benefits are provided to PhD students in the context of a transferable skills course in doctoral education. It focuses on an average of 158 students who took this course in an academic semester and the course content. The aim of this course is to provide doctoral students with lifelong learning skills. For this purpose, 21 century 4C skills (Critical thinking, Creativity, communication skills, collaboration) were taken as the focus in the content prepared throughout the process. The course aims to raise awareness of different areas that can be used for personal and academic development. The topics covered in the course are revised and updated every semester according to feedback from students, changing technology and conditions, and the environment of the country. Therefore, there is a dynamic syllabus.

The term ‘transferable skills’ is recognized as a term that can be applied to a useful set of general skills that are needed both in

education and in the workplace. Within the scope of the course, PhD students' breathing exercises on yoga mats for stress management can be shown as an example of a blended learning model. In the lesson on learning through play, PhD students have gained benefits such as teamwork, stress management and leadership. In the week when the mobbing topic was discussed, students wrote the issues and problems they encountered during their doctoral education on colored papers and pasted them on a common board. At the end of each semester, feedback is received from students regarding the evaluation of the Transferable Skills course. In the end-of-year evaluation surveys, the satisfaction rate of students for the transferable skills course is above 90%.

These courses and new learning models for the development of transferable skills that can be used in graduate education in our country and other universities will contribute development of personal skills and lifelong learning model of PhD students.

**Keywords:** Transferable skill development, lifelong learning, course design, learning experience.

### **Navigating Challenges in PhD Education at TSU Faculty of Medicine: A Path Towards Regulatory Reform and Inclusivity**

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PhD research is a cornerstone of innovation and development in the biomedical sciences at the Faculty of Medicine, Tbilisi State University, driving significant advancements and methodological

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enhancements. Over the past five years, the program has seen over 40 PhD candidates successfully defend their theses, with more than 60 currently engaged in their research endeavours. Among these, basic research projects stand out, contributing to the implementation of over ten new methods within the Department of Clinical Anatomy and the Institute of Morphology - the pivotal centers for basic biomedical investigation.

However, a troubling trend has emerged: postdoctoral fellows who were physicians are leaving for the hospital, leaving a void in the research structures that are critical to the continuation and development of basic biomedical research methodologies. In response to this attrition, proposals have been made to diversify the PhD pool by recruiting biologists in order to maintain a basic research environment.

However, this decision faces a significant obstacle due to national regulations that prohibit faculty from awarding a PhD in Biology to biologists in a medically oriented program, as well as biologists from awarding a PhD in Medicine.

Furthermore, the attempt to establish an inter-university PhD program in “Translational Neuroscience” has spotlighted another dimension of regulatory rigidity. The lack of clear guidelines for the accreditation of interuniversity programs and the consortium-based granting of degrees underlines a critical need for regulatory reform.

These challenges underscore the need for a review and update of national regulations governing PhD program development and implementation. This is crucial for the future of biomedical research at TSU and beyond.

### An In-Depth Analysis of the Impact of ORPHEUS Label in the Physical Therapy and Rehabilitation Field

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**Background:** The aim of this study is to investigate the impact of ORPHEUS label standards and criteria implemented at Hacettepe University on doctoral education, specifically in Physical Therapy and Rehabilitation (PTR) field, through an in-depth analysis. Activities aimed at ensuring ORPHEUS standards at Hacettepe University have been carried out within the Graduate School of Health Sciences since 2016. ORPHEUS Label was obtained in April 2018. Within Graduate School of Health Sciences at Hacettepe University, nine different PhD programs in the field of PTR are conducted. These programs are: Physical Therapy and Rehabilitation, Cardiopulmonary Rehabilitation, Neurology Physiotherapy, Sports Physiotherapy, Orthopaedic Physiotherapy and Rehabilitation, Prosthetics Orthotics and Biomechanics, Physiotherapy and Rehabilitation in Pelvic Health and Women's Health, Rheumatological Physiotherapy and Rehabilitation, and Paediatric Physiotherapy and Rehabilitation.

**Approach:** The study assesses the impacts of the ORPHEUS over the past six years, focusing on elements such as the quality of education, expansion of research processes, advisor-student relationships, graduation characteristics, encountered problems and challenges. Employing a case study approach, acknowledged as fundamental within the qualitative research paradigm, it en-



tails in-depth examination processes to understand system operations. Participants include faculty members from Hacettepe University's PTR department, actively engaged in teaching doctoral programs within the same field. Data collection involves a qualitative survey developed by the researchers, comprising five open-ended questions. Collection activities are voluntary, and the obtained data undergo inductive content analysis.

**Results:** The results reveal the contributions of the ORPHEUS label to the quality of doctoral education in the PTR field and identify key challenges encountered during this process.

**Lessons learned:** Additionally, the results may shed light on the capacity of the ORPHEUS process to address current needs and expectations.

### Evaluating the Quality and Quantity of Thesis-Related Publications After ORPHEUS Label at Hacettepe University

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**Background:** Hacettepe University Graduate School of Health Sciences conducts educational and research activities with its 82 Doctor of Philosophy (PhD) and MD-PhD Integrated Doctorate Programs. Since 2016, it has been a requirement for PhD students

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to publish manuscripts related to their thesis studies, where they must serve as the first author to qualify for graduation. Hacettepe University Graduate School of Health Sciences was awarded the ORPHEUS label in April 2018. Following the ORPHEUS label, the published manuscripts related to their thesis studies, where the student is the first author, must be published in a Q1 quartile journal as per the Web of Science (WOS) index or comprising three different manuscripts. Graduation in accordance with ORPHEUS is mandatory, and failure to fulfill the specified requirements results in the termination of students' education. The aim of this study was to compare both the number and quality of publications produced from the thesis of PhD students who graduated without ORPHEUS label and those who graduated with the label.

**Approach:** We tracked the directly thesis related publication information of PhD graduates from WOS index who started their PhD in 2016, so had the publication requirement for graduation. The number of publications per thesis, index, and quartile information were recorded. The data of the two groups were compared statistically.

**Results:** Since 2016, a total of 204 students graduated, and 176 had ORPHEUS label. 31.6% of the manuscripts were in Q1 quartile. None of the manuscripts were in Q1 who graduated without the label. Besides, we found that 64.2% of the manuscripts associated with the ORPHEUS label fell within the Q1 or Q2 quartile, whereas for those without the label, this figure was 42%. The number of publications per thesis of students who graduated with the ORPHEUS label increased from 1.1 to 1.8 ( $p < 0.05$ ). All students graduated within the standard education timeframe and none of them were faced dismissal, indicating a successful adaptation to the ORPHEUS.

**Lessons learned:** ORPHEUS label contributed to the number and quality of publications of PhD students graduated from our programs. However, we are still in need to implement comprehensive strategies to address challenges and enhance support to improve publication quantity and quality.

### What Do PhD Students and Advisors Expect from Each Other? Examining Expectations in Doctoral Student-Advisor Relationships

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**Background:** Doctoral education aims to cultivate independent researchers with a scientific mindset, highlighting the pivotal role of the student-advisor dynamic. Effective mentorship and clear communication are essential for student satisfaction and success.

**Method:** This study investigates the expectations of doctoral students and advisor faculty members at Acibadem University Graduate School of Health Sciences. Employing a descriptive design, we utilized quantitative research methods, adapting Moses (1985) by Kearns and Finn (2017) to assess expectations. Statistical analysis was conducted using R programming language (v4.2.0), with t-tests applied for comparing means.

**Results:** Out of 163 PhD students and 51 advisors, 45 and 16 individuals participated in our survey, respectively. Significant differences were found in expectations regarding research topic selection ( $p: 0.0105$ ) and deciding methodology ( $p: 0.0480$ ). While students perceive selecting research topics as their responsibility, advisors stated otherwise. Similarly, students expect shared deci-

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sion-making in methodology, whereas advisors think it is more of the student's responsibility. However, expectations align in other areas, such as both parties expect students to develop their research program and advisors to ensure students' progress. Overall, satisfaction with current relationships exceeds expectations, with mean ratings of 4.02/5 for students and 3.81/5 for advisors.

**Conclusions:** Despite variations in expectations, mutual satisfaction is high among doctoral students and advisors. Positive feedback indicates the effectiveness of established practices at Acibadem University Graduate School of Health Sciences. Recognizing the uniqueness of each student-advisor relationship, qualitative studies are necessary to comprehensively understand dynamics and tailor support for academic success. Such exploration is vital for fostering sustainable and successful doctoral program relationships and facilitating ongoing improvements.

### Comparative Analysis of Triangular Benchmarks for Doctoral Programs in Public Health at Tbilisi State University

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**Background:** Tbilisi State University stands as the oldest and largest educational institution in Georgia. Comprising seven faculties, the Faculty of Medicine holds a prominent position, providing undergraduate and graduate programs in Medicine, Dentistry, and Public Health. In Georgia, program accreditation is obligatory only for undergraduate Medical and doctoral programs. External quality assurance is provided by the National Center for Educational Quality Enhancement (NCEQE), which is recognized by the World Federation for Medical Education. At the university level, a minimum standard document is regulating doctoral programs, among them is a doctoral program in Public Health.

**Method:** A comparative analysis was conducted based on TSU minimum standards for doctoral programs, NCEQE accreditation standards and the Orpheus Standards for PhD education in biomedicine and health sciences in Europe.

**Results:** While the structures of all three documents differ, still TSU and national standards are covering all eight Orpheus Standards. However, the European standards additionally covers crucial issues such as: research ethics, agreements between doctoral students and supervisors, participation of foreign representatives in defense commissions etc.. These requirements are categorized as basic, or quality standards within the European standards.

**Conclusion:** The minimum standards of TSU and the national accreditation standards for educational programs in Georgia, in-

cluding public health, generally align with the Orpheus Standards for PhD education. There is no significant disparity between the basic European standards and the standards set by TSU/national regulations. However, there are several aspects that requires gradual attention and improvement to enhance program evaluation procedures.

### **Continuous Monitoring of Doctoral Students' Academic Activity as a Tool for Improving the Quality of Doctoral Studies**

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The postgraduate doctoral programme “Pharmaceutical-Biochemical Sciences” at the Faculty of Pharmacy and Biochemistry of the University of Zagreb includes scientific research work outside the doctoral programme. The following categories are included in the additional scientific activity: Research papers published in journals represented in the Web of Science Core Collection database or in other journals with or without specified categorisation, professional papers published in international or national journals with the specified categorisation, active or passive conference participation, international scientific stays, winter or summer school participation. The academic activity is recorded in the database of doctoral students and assessed with a certain number of ECTS points. In the 2022/2023 academic year, we assessed

the academic activity of 92 doctoral students. On average, the doctoral students published 0.93 research papers and 0.05 specialist papers. They participated both actively (0.93) and passively (0.23) in scientific conferences, but had significantly fewer international scientific stays (0.05) and participation in winter or summer schools (0.02). This results in an average of 58.5 ECTS points per student. We found that doctoral students are very active when it comes to publications and participation in scientific conferences, while international mobility and participation in scientific school programmes could be improved. The results suggest that continuous monitoring is a valuable tool to motivate doctoral students to be scientifically active during their studies and to recognise possible weaknesses and difficulties they encounter.

### **Presentation of the Graduate School for Health Sciences, University of Bern**

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The PhD program at the Graduate School for Health Sciences (GHS) focuses on psychological and physiological factors that determine the health of individuals and groups in their social contexts and physical environments. In their research projects, GHS students evaluate the effects of these factors on physical and mental health, human development, individual well-being, and the health of human populations. Their doctoral dissertations address questions rooted mostly in the clinical domain.

The GHS is an interdisciplinary program jointly organized by the Faculty of Medicine, the Faculty of Human Sciences and the Vet-

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suisse Faculty at the University of Bern.

The PhD students at the GHS are supervised and guided from a diversified pool of academic experts that provides the best possible support for the individual thesis projects.

Depending on the field of research the candidates are assigned to one of the three expert committee with the following fields of expertise: Committee I: Individual Factors, Public Health and Methodologies for Health Sciences Research; Committee II: Neurosciences; Committee III: Clinical Sciences.

In Expert Committee III, there is an opportunity to do the PhD with the 50-50 model: 50% of the time to be dedicated to clinical practice and 50% to clinical research, a unique opportunity in Switzerland that promotes a dual career, clinical and academic.

GHS students have the choice of choosing courses tailored to their individual interests and specific needs to enable them to become highly qualified researchers or professionals ready to transfer their knowledge and skills on complex issues in their field of specialization.

With the successful completion of this training program, the students will receive a PhD degree internationally recognized, endorsed by the three involved faculties.



### Graduate Counseling Development Program of Başkent University Institute of Health Sciences

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Supervisor education in PhD programs is crucial for equipping supervisors with the necessary skills, knowledge, and awareness to effectively mentor and support doctoral candidates through their research and academic journey. While the availability of workshops, seminars, and certificate programs for doctoral supervisors may vary depending on the institution and region, many universities worldwide offer such professional development opportunities. In order to focus on enhancing supervisory skills and promoting best practices in research education each institute may determine its own learning needs and requirements of academics for consultancy training. From this perspective, we first conducted a needs analysis by applying a survey to the faculty members of Başkent University Institute of Health Sciences. 52 faculty members participated in the survey. A training program for supervisors was prepared using the most requested topics as; legal legislation in postgraduate education, Coping with stress, time management, consultant responsibilities and responsibilities and rights of the supervisor.

With the data obtained here, Institute held the Graduate Counseling Development Program dealing Quality and accreditation in postgraduate education, Mentor-mentini relationship in postgraduate education, Student tracking from registration to graduation, Course planning in postgraduate education, Effective communication on April 27, 2023. Results obtained from the survey about the process given to 42 faculty members who participated in this training; will be used to determine the program of the new education process including the frequency of the education meeting.

The preliminary data collected in the development of the counseling training application of a university in the ORPHEUS accreditation process is important in terms of reflecting the perspective of the university staff on the improvement process.

### **Impact of Informational Meetings on PhD candidates' Awareness of ORPHEUS Standards: A Pretest-Posttest Analysis**

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**Background:** The adoption and understanding of ORPHEUS standards in PhD education are critical for maintaining high-quality research and academic integrity. This study investigates the effectiveness of an informational meeting to increase PhD candidates' awareness of ORPHEUS standards. Before the meeting, a pretest assessed PhD candidates' initial knowledge and perceptions, followed by a posttest to evaluate the impact of the meeting.

**Methods:** The study utilized a pretest-posttest design involving 69 PhD candidates across various disciplines who will graduate with the ORPHEUS label. Electronic surveys were administered before and after an informational meeting discussing the ORPHEUS significance, and its requirements. The surveys consisted of 21 questions related to PhD candidates' awareness of ORPHEUS

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standards (compulsory courses, transferable skill courses, publications required for the graduation, the timing of thesis supervisor assignments) and a final open-ended question in which they wrote their thoughts with the perceived advantages of ORPHEUS labeling.

**Results:** Analysis of the pretest and post-test responses indicated increased awareness and understanding of the ORPHEUS standards among PhD candidates. Notably, there was a marked improvement in the recognition of the importance of early thesis supervisor assignment, the necessity of completing the transferable skill courses and the need to begin work on the thesis from the first semester. Additionally, PhD candidates' responses to post-test reflected a broader understanding of the advantages of graduating with ORPHEUS labeling.

**Conclusions:** The informational meeting proved an effective tool for enhancing PhD candidates' awareness and comprehension of the ORPHEUS. This suggests that targeted educational interventions can significantly contribute to the preparedness of PhD candidates, aligning their academic endeavors with recognized quality standards. The study underscores the necessity of incorporating such informational at the beginning and later stages of PhD education to foster an environment of informed and engaged researchers.

## Artificial Intelligence - Awareness and Expectations According to the Opinion of Employees of Medical Institutions of Georgia

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The first results of the implementation of artificial intelligence in the world's leading countries show us that it will lead to great changes in the healthcare system, and Georgia will not be an exception.

It is these considerations that led to the purpose of our research: to explore how informed the staff working in the healthcare sector are about artificial intelligence and what their expectations are regarding the integration of artificial intelligence in healthcare.

To achieve the mentioned goal, in 2023-2024, employees and students of medical institutions, a total of 852 people, were interviewed with specially developed questionnaires and questions using the Moodle system. In particular, 79 doctors/teachers carrying out the MD program of ATSU (G1), 208 clinical doctors (G2), 99 assistants and administration employees of medical institutions (G3), and 466 students of the "MD" program (G4).

### **Results of the research:**

- The vast majority of interviewees (98-99%) are informed about AI, mainly through news media.
- More than half of interviewees have interacted with AI at least once, but multiple-use figures are extremely low (0.5-11%), especially among G2 interviewees.
- Our interviewees use AI only to get information, and they ex-

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pect benefits from its implementation in the form of increased knowledge and skills in using information technologies.

- In the health care system of Georgia, they only expect help in making a diagnosis from the benefits, which according to 81% of doctors should eventually be transformed into the improvement of the quality of health care.
- Respondents in AI do not look at the competitor, therefore, they do not expect to lose jobs.
- 72% of the interviewees express their willingness to actively engage in relevant trainings in order to raise the qualifications of digital technologies and AI professional use.

### **The results of the students' survey are particularly interesting:**

- 100% of students know AI,
- 89% of students use AI, including 71% on a daily basis, to obtain information (100%) and to complete assigned tasks "quality" 59%.

### **The problems that exist in Georgia in this direction are highlighted here:**

- A. Limited resources (every fourth doctor (23%) has only a personal computer).
- B. Language barrier (level of knowledge of the English language <B1 – 89% of respondents have only)
- C. Significantly different indicators of digital literacy (use of office programs - < 5 - 59%, engagement in social media < 77%, use of more than two AI programs - < 3%...)
- D. Lack of regulatory landscape
- E. Risk of "brain drain" (68% of respondents under the age of 40 "expected more" in professional activity and 52% of students intend to do residency abroad).

**Conclusion:** the data was interestingly distributed in age and professional groups. AI is an area of great interest and expectation among young people. Older age shows more signs of “uncertainty”. According to students, AI will greatly help them in proper time management.

The results of the study showed the need to take them into account, we think that by realizing these challenges and using potential opportunities (cooperation with international partners, starting with pilot projects in specific fields) Georgia can address the integration of AI in the healthcare sector to improve the quality of patient care and strengthen the medical workforce.

### **Progress in Internationalisation of the PhD Programme of the Doctoral School of Medical at Health Sciences Jagiellonian University Medical College in Krakow, Poland**

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**Background:** The Doctoral School of Medical and Health Sciences was founded as one of four Doctoral Schools at the Jagiellonian University in Krakow, Poland in 2019, in accordance with the changing legislation in Poland enabling training of doctoral students within doctoral schools. Since the beginning it has provided an interdisciplinary educational programme admitting PhD candidates interested to conduct a research and obtain a degree in one of 3 disciplines: medical sciences, pharmaceutical sciences and health sciences. Internationalisation of the educational curriculum has been one of the most important aspects of development for the doctoral schools.

**Approach:** We have applied together with 3 other doctoral schools at the Jagiellonian University for funding from the Polish National Agency for Academic Exchange and have been successful to obtain funding for 2021-2023 within the NAWA – STER call. The actions planned included competitive funding of scholarships for PhD students involved in international cooperation with renowned research institutions, support of monthly research internships abroad, establishing new PhD programme taught in English, launching of summer schools, organizing lectures and workshops with foreign staff, including Nobel Prize winners, providing training for PhD supervisors and enabling PhD students access to mobile courses. Promotion of Doctoral Schools among English-speaking candidates has also been foreseen. Since 2022 additional source of support for internationalization of doctoral schools was launched within the Strategic Programme Excellence Initiative at the Jagiellonian University.

**Effects:** During the first year of the project, 6 PhD students have been awarded an increase in scholarship remuneration in recognition of their productive international scientific collaboration. Within continuous competition mode we have selected 8 PhD students for whom monthly research internships were founded in European countries as well as outside Europe. Courses given by the foreign staff, both on-site and remote, have gathered over 90 PhD students in total. In the training sessions for PhD super-

visors participated 30-40 academic staff members in each of disciplines represented at the Doctoral School. The interdisciplinary programme in English was constructed and started admissions in 2021. After COVID19 pandemics lockdown was abolished, two editions of the summer school were organized, with participation of 100 PhD students overall, giving their own presentations and receiving additional training lectures and workshops provided in English. The promotion of the Doctoral School at the international websites for PhD candidates (e.g. FindAPhD) has been initiated. Ongoing competitive funding for PhD students within the Strategic Programme Excellence Initiative at the Jagiellonian University includes research internships abroad and participation in international conferences.

### Lessons learned:

1. Internationalisation of doctoral school is feasible and numerous actions might be effectively executed to increase both PhD students mobility and internalisation “at home”.
2. Experience from the NAWA-STER project allowed to strengthen the curriculum and educational offer of the Doctoral School.

## Academic Merit: Skill Matrix Curriculum besides a Track-record Based System in PhD Education

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**Background:** Academic merit is bound to the creation of written publications and presentations. However, the criteria for authorship on publications are often subject to debate and controversy.



Addressing this issue, alternative approaches to assess contribution and merit could be introduced as part of a PhD education. This study evaluates the prospect of incorporating a matrix framework, encompassing diverse dimensions of skills, knowledge and activity to redefine practice and the evaluation of academic merit in doctoral studies.

**Approach:** A review of the literature was conducted to compare different skill and knowledge based frameworks used in higher education. Suitability for use as part of a PhD program is assessed. A proposal for a multidimensional skill matrix is made based on the literature review. This matrix assesses candidates based on their proficiency, knowledge depth and active engagement in research and scholarly activities.

**Results:** The study revealed that there are different frameworks available used in higher education which have a different focus and purpose. The synthesis of these different approaches allows to produce a matrix specific to PhD education including relevant dimensions. This matrix can be implemented alongside the traditional track-record based system to provide a comparative evaluation. Whether the matrix allows to redefine academic merit is subject to context and further research.

**Lessons learned:** The research highlights the benefits of adopting a skill matrix in tandem with the conventional track-record based system for evaluation of academic capability and merit in PhD education. The lessons learned emphasize the importance of recognising and nurturing a broader spectrum of skills essential for success in academia. The evaluation and synthesis of the different frameworks and adaptation to PhD education ensures more inclusive and comprehensive evaluation, paving the way for a refined system that better aligns with the evolving landscape of academic research and scholarship.

### **The Impact of ORPHEUS Label at Hacettepe University Graduate School of Health Sciences**

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**Background:** Hacettepe University Graduate School of Health Sciences, awarded the ORPHEUS label in April 2018, has been actively conducting educational and research activities through its 82 Doctor of Philosophy (PhD) and MD-PhD Integrated Doctorate Programs. This study aims to investigate the impact of ORPHEUS label standards and criteria on doctoral education at Hacettepe University Graduate School of Health Sciences.

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**Method:** We conducted an online survey over the past six years to gather the opinions of consultants involved in the programs. The survey, comprising 32 questions designed by administrators and stakeholders, focused on various aspects such as education quality, research processes, advisor-student relationships, graduation characteristics, and challenges. Participants, actively engaged consultant faculty members from Hacettepe University, rated the questions on a scale of 1 to 5, with 5 indicating strong agreement and 1 indicating disagreement. Data collection activities was voluntary, and content was analysed.

**Results:** Outcomes from 134 consultants revealed that 45% agreed, and 15% highly agreed that the ORPHEUS label positively contributed to the quality of doctoral education. A noteworthy 7% held negative views, primarily due to challenges in publishing high-quality papers with limited infrastructure and funds within a short timeframe.

**Conclusions:** The survey-based approach proved effective in gaining insights, providing valuable information for decision-making. The results highlight the ORPHEUS label's capacity to address current needs and expectations, showcasing positive contributions to doctoral education at Hacettepe University Graduate School of Health Sciences.

### The Role of Technology and Large Language Models in PhD Education: An Innovation and Integration Survey for PhD candidates

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**Background:** The rapidly evolving landscape of technology and the emergence of large language models (LLMs) have profound implications for PhD education. This survey aims to explore PhD candidates' perspectives on integrating contemporary technologies, including LLMs, into their educational and research processes. The intention is to identify potential areas where technology can enhance the effectiveness, efficiency, and innovation in PhD research.

**Material and Method:** A structured questionnaire consisting of 20 multiple-choice questions was designed and disseminated to approximately 50 PhD candidates across various disciplines. The questions were categorized into two main sections: the first 15 focused on general technology integration in PhD education, while the latter 5 specifically addressed the application of large language models. The survey was distributed online.

**Results:** The expected outcomes are to identify key technological tools and methods that are deemed most beneficial in PhD research. According to the results, it is anticipated that data analy-

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sis tools, communication platforms, and digital publication mediums will be highlighted as significant enhancers of research productivity and collaboration. Regarding LLMs, the survey revealed insights into their perceived utility in research processes, ethical considerations, and potential limitations. The responses are presumed to emphasize the need for a balance between technological reliance and traditional research methodologies.

**Conclusion:** The findings of this survey are projected to provide valuable insights into the current state and future potential of technology and LLMs in PhD education. It will highlight areas where technological integration can be optimized and suggest how LLMs can be effectively utilized while acknowledging their limitations. This survey will also inform educators and policymakers on the evolving needs and preferences of PhD candidates in the context of technological advancements, guiding future developments in PhD education programs.

### Implementation of a Mentoring-Monitoring Program on Systematic Review (MeMo-SR) in the Doctoral Study Program at the Faculty of Medicine, Public Health, and Nursing UGM, Indonesia

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**Background:** Publication in international journals is mandatory for PhD students enrolled at the Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia. This requirement was perceived as the major obstacle for the PhD students resulting in delays in the next step, i.e. the closed PhD defense. Based on these observation, a Mentoring-Monitoring Program (MeMo) was initiated in 2021 for the first year PhD students. The program focuses on adaptation to the new academic environment (first semester) and writing publication on Systematic Review (second semester). In parallel, a course on Systematic Review was also implemented, supported by the mentors in the MeMo program. Participation of the PhD students and mentors are voluntarily. Mentors were recruited from young lecturers with PhD qualification and they were expected to have four mentoring sessions with the PhD students.

**Objective:** This abstract focused on the MeMo Systematic Review (SR) program aimed to describe level of participation of the PhD students and manuscripts submitted to international journals.

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**Results:** The results showed that participation of the PhD students in the MeMO-SR program was high, i.e. 90.16% (2021 batch) to 85.89% (2022 batch). The number of mentors recruited were 40 (2021) and 30 (2022). The outcome of this MeMo-SR program is manuscripts submitted to international journals with a minimum of Q3 ranking. The proportion of PhD students who were able to submitted their manuscript was 23.63%, (13 out of 55 students, 2021 batch) and 20.89% (14 out of 67 students, 2022 batch). Out of the total 27 manuscripts written, 9 were already accepted, 5 were submitted and 13 were in manuscript. The type of manuscripts produced was meta-analysis (1 manuscript), scoping review (14 manuscripts), systematic review (8 manuscripts), bibliometric (2 manuscripts), 1 review protocol and 1 literature review. we have seen the potential of MeMo-SR to enable the students to submit their manuscript earlier.

**Lesson learned:** The MeMo-SR program was able to encourage PhD students to start producing manuscripts prior to their field work. Engagement of mentors still varied and factors contributing to successful submission of manuscripts need to be explored for future improvement of the program.

### Enhancing Medical Education through Digital Pathology: A Comparative Study of Student Perceptions and Cognitive Load

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**Background and Rationale:** Digital pathology transforms the way pathology data is handled by converting it into a digital format. Whole Slide Images (WSI), created through scanning glass slides, provide a digital platform for analysis. This study explores the effects of integrating WSI into undergraduate medical education.

**Method:** The study focuses on students from David Tvildiani Medical University (DTMU) and Akaki Tsereteli State University (ATSU) Faculty of Medicine, 2nd to 4th-year MD and MD-PBL students. It aims to gauge their satisfaction with WSI as a learning tool and measure cognitive load using subjective questionnaires. Comparative analysis between sites is conducted to identify potential course-specific influences. Digital and conventional slides with histopathological descriptions were used, alongside clinical scenarios relevant to the syllabus, delivered to students. Pretest and posttest questionnaires assessed expectations, while subjective questionnaires measured cognitive load after each task.

**Results:** DTMU students showed consistent perceptions regarding clinical reasoning, while ATSU students exhibited significant satisfaction regarding the whole process. improvement. Confidence in knowledge and decision-making varied between the groups, showing increased expectations for new learning tools.



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Cognitive load assessment revealed intrinsic cognitive load in both groups, with varying extraneous cognitive load in the conventional group but significantly reduced in the WSI group.

**Conclusions:** Expectations and satisfaction with learning resource varied among institutions and students with different experiences. Still, it was crucial to note that the cognitive load assessed after using the resource was consistent across both groups and was not correlated with the student's expectations and satisfaction. Nevertheless, further studies are needed to objectively evaluate the existing pilot study's results.

**Lessons from the Field and Practice:** Digital pathology, particularly WSI, can potentially improve the learning process and impact cognitive load among students. This underscores the importance of continuously evaluating digital learning tools in medical curricula.

### **Role of fluximetry in fetal outcome**

Eglantina Dema, American hospital, Tirana, Albania

### **Non-steroid anti-inflammatory treatment enhances the efficacy of modulated electro-hyperthermia on triple-negative breast cancer and melanoma cancer models in vivo**

N. Giunashvili, J. Thomas, P.Viana, K. Aloss, M. Zahra, L. Danics, Z. Koos, D. Bocsi, E. Major, Z. Benyó, C. A. Schvarcz, Péter Hamar, Semmelweis University, Budapest, Hungary

### **Optimizing n,n,n-trimethyl chitosan (tmc) synthesis: a design of experiments (doe) approach and investigation of cytotoxicity with different degrees of substitution**

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### **Implementation Experience in Developing of Post-caesarean Section Home Care Guide in Tanzania.**

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### **The Impact of Socio-Cultural Factors on The Behaviors Toward Breastfeeding in Syrian And Hungarian Female Students**

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### **The Health Development Office as a Gerontosociological Innovator: National Coverage and Impact in Hungary**

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