



orpheus

CMMC CENTER FOR
MOLECULAR MEDICINE
COLOGNE

11th ORPHEUS Conference

March 10th - 12th, 2016

Lost in translation?
From medical studies to
clinical research.

Program and poster abstracts



Welcome to Cologne



Welcome to the Conference

Dear participants, dear friends, dear colleagues, dear students,

It gives us great pleasure to welcome you to the 11th ORPHEUS CONFERENCE 2016 "Lost in translation? From medical studies to clinical research", taking place on March 10th - 12th, 2016 in Cologne (Germany).

ORPHEUS - the Organization of PhD Education and Biomedicine and Health Sciences - is a network of higher education institutions that is committed to developing and disseminating best practice within PhD training programs.

The overall mission of ORPHEUS is to spread best practice in PhD education, to safeguard the PhD as a research degree, to strengthen career opportunities for PhD graduates and to give active support and guidance to members of ORPHEUS in enhancing their contributions to medicine and society in general. Most importantly ORPHEUS represents higher education and research in biomedicine and health sciences and thereby influences policy making at national, European and international levels.

Since its foundation in 2004 ORPHEUS members have organized annual thematic European conferences to develop and encourage cooperation among members of the organization, associated partners and interested participants. ORPHEUS Conferences have been hosted in Zagreb, Helsinki, Aarhus, Vienna, Izmir, Bergen, Prague, Lausanne, Belgrade and this year in Cologne.

The aim of the ORPHEUS Conference 2016 is to discuss the complete career path in biomedicine and health sciences beginning with the undergraduate level, followed by the doctoral period and the subsequent transition phase. Special emphasis will be given to the impact of innovative doctoral educational programs and the training of physician scientists.

We are delighted to forward a special welcome to our international experts who will present innovative strategies and concepts on the following themes:

- Research training for medical and natural science students in biomedicine and health sciences
- Perspectives for physician scientists in the 21st Century
- Graduate programs for clinicians in biomedicine and health sciences
- Impact of innovations within doctoral education

This year's ORPHEUS Lecture is held by Carla Nau (Lübeck - DE) entitled '*Challenges of becoming a physician scientist - a personal insight*'. The program also includes a debate session "*Why we Do/Don't need physician scientists*", four workshop sessions and a poster session with over 30 posters for networking.

We would like to thank all guest speakers and workshop chairs for their valuable contribution. Special thanks to our ORPHEUS PhD Student Representatives Vesna Coric (Univ. of Belgrade) and Kashish Manchanda (Univ. of Cologne) who have organized a workshop for participating students and a student hosting program

We are expecting a highly interactive meeting sparked by a panel of internationally renowned speakers who will discuss their understanding and strategic concepts related to the various stages of the career in biomedicine and health sciences with an audience of scientists, physicians, chairs of educational programs, representatives from academic institutions/organizations involved in and/or having a special interest in doctoral education and - most importantly - students at all stages of their career path.

We wish you a successful meeting, and to all participants coming from abroad a pleasant stay in Cologne.

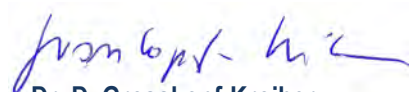
Yours sincerely



Prof. Dr. M. Paulsson
Dean for Scientific Affairs
Medical Faculty of Cologne
University of Cologne, DE



Prof. Dr. R. A. Harris
ORPHEUS President
Karolinska Institutet,
Stockholm, SE



Dr. D. Grosskopf-Kroiher
ORPHEUS EC Member
Center for Molecular Medicine
Cologne, Univ. of Cologne, DE

11th ORPHEUS Conference

March 10th - 12th, 2016

**Lost in translation?
From medical studies to clinical research.**

Under the patronage of ORPHEUS organized by
**the Faculty of Medicine and
the Center for Molecular Medicine Cologne (CMMC)
University of Cologne**

We gratefully acknowledge the associating partner



and the following graduate programs/schools at the University of Cologne

- Interdisciplinary Graduate Program Molecular Medicine
- Graduate Program of Cologne Cardiovascular Research Center
- Interdisciplinary Graduate Program for Health Sciences
- Graduate School for Biological Sciences
- Graduate Program in Pharmacology and Experimental Therapeutics
- Research Training Group - Neural Circuit Analysis on the Cellular and Subcellular Level
- Cologne Graduate School of Ageing Research
- Master of Experimental and Clinical Neuroscience

and the following institutions



**UNIKLINIK
KÖLN**

11th ORPHEUS Conference

We gratefully acknowledge EMTRAIN for providing the travel support grants



We gratefully acknowledge the support of



We gratefully acknowledge the organizational support of

The students of the “Fachschaft Medizin” of the Medical Faculty, University of Cologne

Jan-Michael Werner - Ismini Halmer - Jonas Günther - Max Lehmann (Live Music - classical guitar)

The members of the Center for Molecular Medicine Cologne including the PhD Student of the Interdisciplinary Program Molecular Medicine and the CCRC

Mehreen Batool - Franziska Cama - Vishal Dixit - Natalia Mendoza Ferreira - Jurij Gebert - Elisa Göckeritz - Kristina Golfmann - Julia Heinrichs - David Kochan - Pia Kuhn - Arul Marriapan - Lars Neumann - Milos Nikolic - Rizwan Rehimi - Christina Tebartz - Verena Vondey and other members that are not yet mentioned.

The members of the CMMC Office

Konstantin Belostoski - Claudia Herr - Gertrud Peltzer - Tanja Bertenburg - Angelika Winterscheid - Marcel Schaper - Tina Hafermann - Halina Weinert - Ursula Cullmann and Harald Metzner (Institute for Veg. Physiology) for providing the technical support of the Lecture Hall Building

Conference Committees

Local ORPHEUS Conference Committee - University of Cologne

Chairs	Mats Paulsson Debora Grosskopf-Kroiher
Members	Jan-Michael Werner Kashish Manchanda Vera Bergmeier Tim Hucho Sören Moritz Catherin Niemann Daniela Mutschler Christoph Stosch Herbert Pfister Thomas Benzing

ORPHEUS Executive Committee (2015 – 2016)

Acting president	Robert Harris (Stockholm, Sweden)
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PhD Candidates Representatives	Vesna Coric (Belgrade, Serbia) Kashish Manchanda (Cologne, Germany)
Co-opted EC Members	Luis Martinez Millan (Bilbao, Spain) Oksana Sulaieva (Zaporozhye), Ukraine) Sergo I. Tabagari (Tbilisi, Georgia) António Manuel de Sousa Pereira (Porto, Portugal) Paola Zanovello (Padova, Italy) Osman Sinanović (Tuzla, Bosnia and Herzegovina) Laszlo Rosivall (Budapest, Hungary)

ORPHEUS Conference Program

Thursday – March 10th, 2016

1.30 - 1.45 p.m. Welcome Address

Stefan Herzig

Mats Paulsson

Vice-Rector - University of Cologne

Dean for Scientific Affairs - Medical Faculty, Univ. of Cologne

1.45 - 2.20 p.m. The ORPHEUS mission – aims and challenges

Robert Harris - ORPHEUS President - Karolinska Institutet - Stockholm, SWE

Session I

Research training for medical and natural science undergraduates in biomedicine and health science

Chairs

Christoph Stosch (Cologne, GER) / **Konstantin Gurevich** (Moscow, RUS)

2.20 - 2.55 p.m. Basic sciences in medical education - developments at the Mayo Clinic

Wojciech Pawlina - Mayo Clinic College of Medicine, Mayo Clinic - Rochester, USA

2.55 - 3.20 p.m. Coffee Break

3.20 - 3.55 p.m. Cognition before curriculum: meaningfully integrating science, clinical reasoning, and identity

Mahan Kulasegaram - Education Evalu., Dept. of Surgery, The Wilson Centre - Toronto, CAN

3.55 - 4.30 p.m. Science in medical education at the University of Cologne

Sören Moritz - Medical Faculty, University of Cologne - Cologne, GER

4.30 - 5.00 p.m. Coffee Break

5.00 - 6.00 p.m. Challenges of becoming a physician scientist - a personal insight

ORPHEUS
Carla Nau

Lecture 2016

Dept. of Anaesthesiology and Intensive Care, University Hospital Lübeck - GER

6.00 - 9.00 p.m. Poster Session with EMTRAIN Info booth

incl. selection of three posters for the poster awards and

Welcome-Get-Together with fingerfood for all participants



Friday - March 11th, 2016

Session II Perspectives for physician scientists in the 21st Century

- Chairs** **Miroslav Cerevinka** (Hradec Kralove, CZE) / **Stephanie Clare** (Lausanne, CHE)
- 9.00 - 9.35 a.m.** **Translational research in Neuroscience – the role of physician scientists**
Fran Borovecki - Zagreb University - Zagreb, HRV
- 9.35 - 10.10 a.m.** **Research training of physician scientists in countries with diverse sociocultural environment: what can we learn from one another?**
Ivan Vyshnyvetsky - Bogomolets National Medical University - Kiev, UKR
- 10.10 - 10.40 a.m.** *Coffee Break*
- 10.40 - 11.15 a.m.** **The future of the physician-scientist: peril or promise?**
Louis B. Justement - FASEB SPCM, Univ. of Alabama, Birmingham, USA
- 11.15 - 12.00 a.m.** **Do we need clinical PhD programs? Pros and cons for the career as physician scientist**
Debate **Roland Jonsson** (Univ. of Bergen, NOR) / **Nebojsa Lalic** (Univ. of Belgrade, RSB)
- 12.00 - 1.20 p.m.** *Lunch break with Poster Presentation (Soup and sandwiches at the venue)*

Session III Four parallel workshops

- 1.20 - 3.30 p.m** **MD-PhD programs in Europe**
Workshop A **Chairs:** Zdravko Lackovic (Zagreb, HRV) / Joey V. Barnett (Nashville, USA)
- 1.20 - 3.30 p.m** **The importance for the PhD and Postdoc phase on the future career?**
Workshop B **Chairs:** Mike Hardman, Christa Janko (EMTRAIN) / Tim Hucho (Cologne, GER)
- 1.20 - 3.30 p.m.** **Professionalization of PhD supervision**
Workshop C **Chairs:** Robert A Harris (Stockholm, SWE) / Edwin A Kroeger (Winnipeg, CAN)
- 1.20 - 3.30 p.m.** **The role of the student-representation in the establishment and operation of doctoral programs**
ORPHEUS Students
Workshop **Chairs:** Vesna Coric (Belgrade, RSB) / Kashish Manchanda (Cologne, GER)
- 3.30 - 3.45 p.m.** *Coffee break*

Session IV Graduate programs for clinicians in biomedicine and health sciences

- Chairs** **Ana Borovecki** (Zagreb, HRV) / **Catherin Niemann** (Cologne, GER)
- 3.45 - 4.20 p.m.** **The clinical PhD program at the Medical Univ. of Innsbruck: Experiences and challenges**
Thomas Berger - Medical University - Innsbruck, AUT
- 4.20 - 4.55 p.m.** **The importance of PhD programs in nursing**
Zühal Bahar - Koc University - Istanbul, TUR
- 4.55 - 5.15 p.m.** *Coffee break*
- 5.15 - 5.50 p.m.** **Regular and irregular research education of clinicians at Karolinska Institutet**
Michael Fore - Dept. of Medicine, Solna, Karolinska Institutet - Stockholm, SWE
- 5.50 - 6.25 p.m.** **The German Medical Thesis in the process of internationalization: when the going gets tough the tough get going.**
Jörg-Wilhelm Oestmann – Charité - Berlin, GER
- 6.25 - 6.30 p.m.** **Announcement of the three poster awardees**

- 6.30 p.m.** **Reception with Live Music** - Max Lehmann (medical student) presents classical guitar music
- 7.00 p.m.** **ORPHEUS Conference Dinner at the venue**

Saturday - March 12th, 2016

Session V Impact of innovations within doctoral and postdoctoral education

Chairs **Oksana Sulaieva** (Zaporozhye, UKR) / **Debora Grosskopf-Kroiher** (Cologne, GER)

9.00 - 9.35 a.m. **What happens when you train supervisors - the KI experience**

Robert A Harris - Karolinska Institutet, Stockholm, SWE

9.35 - 10.10 a.m. **Position of AMSE on the role of Medical Schools in graduate and postgraduate education**

Dusan Suput - The Association of Medical Schools in Europe (AMSE), Univ. of Ljubljana - Ljubljana, SVN

10.10 - 10.25 a.m. *Coffee Break*

10.25 - 11.00 a.m. **National Institutes of Health-sponsored initiatives in Ph.D. training in the US – enhancing outcome and impact**

Joey V Barnett - Medical Center, Vanderbilt University, Nashville, USA

11.00 - 11.35 a.m. **Impact of Orpheus Label on PhD training: the experience of Dokuz Eylül University, Izmir**

Gül Güner Akdogan - Dokuz Eylül University - Izmir, TUR

11.35 - 12.00 p.m. **Short presentation of the three poster awardees (3 x 8 min. short talks)**

12.00 – 12.45 p.m. *Lunch break*

12.45 - 01.30 p.m. **Outcome of the workshops and summary**

01.30 - 01.45 p.m. **Concluding remarks and flag ceremony**

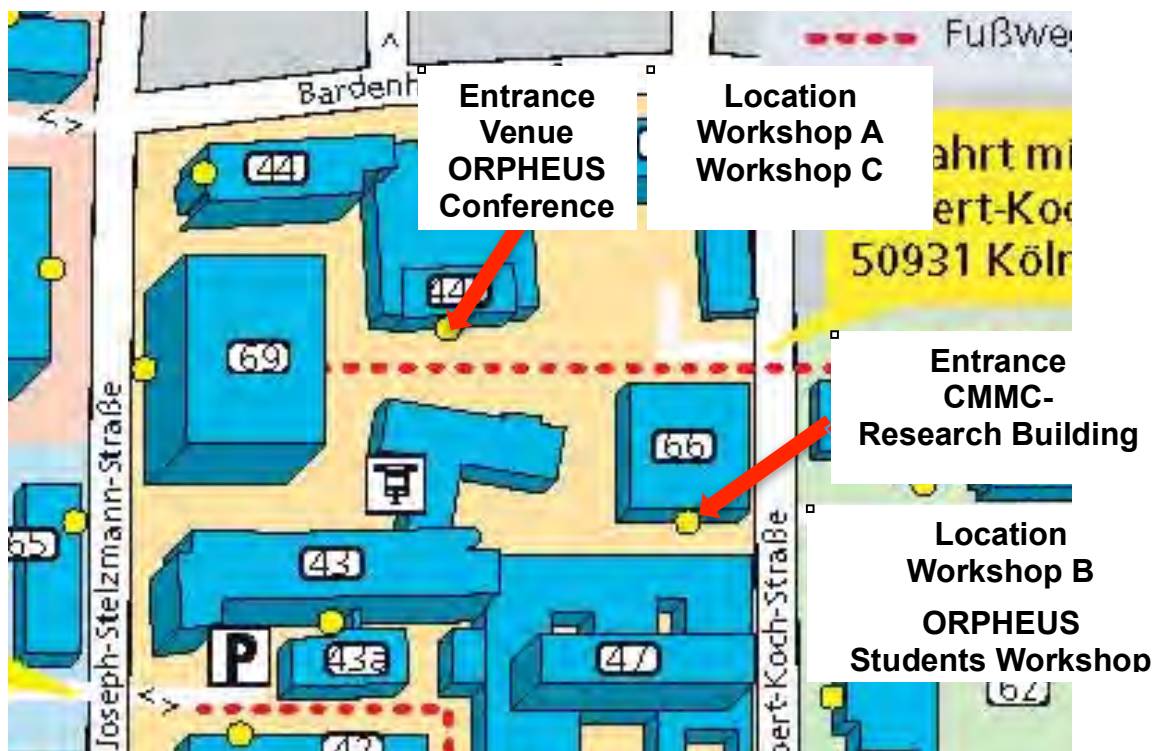
01.45 - 02.45 p.m. **General ORPHEUS Assembly (with Coffee)**



Workshop locations

March 11th, 2016 - 1.20 - 3.30 p.m.

		Location
Workshop A	MD-PhD programs in Europe Chairs Zdravko Lackovic (Zagreb, HRV) Joey Barnett (Nashville, USA) Short presentations Leif Hommers (Würzburg, GER) Martin J Smit (Groningen, NLD)	Large lecture hall at the venue (MTI-Hörsaalgebäude)
Workshop B	The importance for the PhD and Postdoc phase on the future career? Chairs Mike Hardman (Macclesfield, GBR) Christa Janko (Vienna, AUT) Tim Hucho (Cologne, GER)	Seminar room CMMC-Research Building (2 min. walk from the venue)
Workshop C	Professionalization of PhD supervision Chairs Robert A Harris (Stockholm, SWE) Edwin Kroeger (Winnipeg, CAN)	Seminar room at the venue (MTI-Hörsaalgebäude)
ORPHEUS Students Workshop	The role of the student-representation in the establishment and operation of doctoral programs Chairs Vesna Coric (Belgrade, RSB) Kashish Manchanda (Cologne, GER)	Mediathek CMMC-Research Building (2 min. walk from the venue)



ORPHEUS Students Workshop

Program

The role of student-representation in the establishment and operation of doctoral programs

Friday, March 11th, 2016

CMMC Mediathek, EG.006 (ground floor),
Robert-Koch-Straße 21, 50931 Cologne

01:20 - 01:25 p.m.	Welcome Vesna Coric (Belgrade University, RSB) and Kashish Manchanda (University of Cologne, GER) ORPHEUS Student Representatives
01:25 - 01:55 p.m.	Student representations in relation to PhD Education: Experiences from the PhD Association Health, Aarhus University, Denmark Kasper Pryds Chairman, PhD Association, Aarhus University, Aarhus (DNK)
01:55 - 02:20 p.m.	The environment for successful research – my personal view Bernhard Schermer Professor and head of the Nephrolab, Univ. Hospital Cologne (GER)
02:20 - 02:30 p.m.	BREAK
02:30 - 02:55 p.m.	PhD Candidates' associations: Why to join and how to make an impact Natalie Neubert PhD Student, University of Lausanne, Lausanne (CHE)
02:55 - 03:30 p.m.	Final discussion and writing of consensus document

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Information

Poster Presentation

Poster size

DIN A0 format (84 cm wide and 118 cm high).

Poster board

Upon arrival please register at the ORPHEUS registration desk. The staff will give you information about the location of your poster board. You will find your poster board number (PBN) in the ORPHEUS Conference Book. Please use the board with the same number displayed in the upper right corner of the poster board.

Mounting and poster display

Push pins and technical equipment will be available.

Posters should be mounted on the display boards on Thursday, March 10th, 2016 from 01:00 p.m. to Saturday, March 12th, 2016 01:00 p.m.

Poster Sessions

The poster presentation will take place:

Thursday, 10th March 2016 from 6.30 - 9.00 p.m.

during the Welcome-Get-Together

Friday, 11th March 2016 from 12.10 p.m. - 1.40 p.m.

during the lunch break at the venue

The poster should be displayed during the entire duration of the symposium. The symposium ends on Saturday, 12th March, 2016 at 1.30 p.m.

Poster Award

The Poster Evaluation Committee (PEC) will judge posters on the content with a focus on originality, potential impact/importance of the topic, novelty and relevance. The PEC decided to award 250,- Euro to the first author of the three most outstanding poster contributions.

The Awards will be presented on Friday, 11th March 2016 at 6.30 p.m.

Awardees of the poster prizes are invited to give a short presentation (10 min.) on Saturday, 12th March 2016 from 11.00 a.m. - 11.30 a.m.

Further Information

If you have further questions, please contact:

Debora Grosskopf-Kroiher - CMMC (debora.grosskopf-kroiher@uni-koeln.de) or

Jan-Michael Werner - Medical Faculty Köln (jan-michael.werner@uk-koeln.de)

Research Skills Curriculum for Undergraduate Students at Tbilisi State Medical University

N Gamkrelidze¹ / R Beriashvili² / L Gabunia¹ / S Khetsuriani¹

¹Scientific Research Skills Centre, Tbilisi State Medical University, Georgia

²Vice Rector, Tbilisi State Medical University, Georgia

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Introduction

Tbilisi State Medical University (TSMU) is the leading medical school in Georgia and one of the main academic and scientific institutions in the whole Caucasian region, established in the beginning of 20th century on European values. Successful undergraduate, postgraduate and continuous professional development programs, Master's and Doctoral courses, high professional education programs make Tbilisi State Medical University attractive for prospective students not only in Georgia, but around 50 other countries around the world. Among others the undergraduate MD program is the largest. Curriculum model for MD program is horizontally integrated and lasts 6 years offering 13 credits to research component: Bioethics – 2 credits, Basics of research skills – 2 credits, Biostatistics – 4 credits, Evidence Based Medicine – 2 credits, Research Project – 3 credits. Scientific Research Skills Centre (SRSC, founded in 2012 year in the scope of TEMPUS Project) teaches basics of research skills to 4th semester MD students. Goal of the course is to teach database searching, structuring a scientific article, the basic principles of referencing and avoiding plagiarism. The curriculum includes study design, research types and methods, statistical analyses of data, ethical infringement and legal issues in research, scientific paper and grant proposal writing skills. Besides, students work on scientific databases; find, analyze relevant scientific works, prepare reviews and present them to the class whereby SRSC tutor acts as a moderator.

On the later stage of the study the SRSC also coordinates the research project course for 6th year students, performed by two ways: 1) conduction of research under the guidance of research supervisor and consequently presentation of obtained results, or 2) processing the newest medical literature, preparation of review and finally, presentation it at the department where the research project was guided. SRSC provides organizational support (evaluation criteria and etc.) to students, research supervisors and the departments respectively.

Results

After the completion of the both courses accomplished by SRSC, students are able to use evidence-based principles, skills and knowledge; use biomedical research principles and methods in medical practice and research; gain ability of critical analysis of publications, discussing, interpreting results, drawing proper conclusions, as well as implementing them into practice as considered by Georgian National Accreditation Standards for undergraduate medical education.

Perspectives

The research skills course opens new professional opportunities to students in becoming life-long learners, enabling them to plan and conduct innovative research, publish and present original research results to different conferences, thus joining to the international scientific communities throughout the world.

Follow-up of the medical student research program in Norwegian medical school

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G W Jacobsen⁴

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²Faculty of Medicine, Arctic University of Norway UiT, Tromsø, Norway

³Faculty of Medicine, University of Oslo, Oslo, Norway

⁴Faculty of Medicine, Norwegian University of Science and Technology, Trondheim, Norway

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Introduction

A medical student research programme (MSRP) was initiated in Norwegian medical schools in 2002 and was first evaluated in 2006. The authors concluded that there was an increase in the recruitment of graduated physicians to medical research in Norway (1). The aim of a more recent survey in 2014-15 was to investigate if the MSRP led more MDs to complete a PhD after graduation from medical school.

Results

In total, 578 students were admitted to the medical student research programme from 2002 to 2012, and 221 (38%) of them answered the survey. For each individual case, we matched two medical students from outside the program as controls with a responderate of 46%. Key figures for both groups are shown below.

	MSRP	Controls
Age (yrs)	32.6	32.5
Proportion Female (%)	53	49
Admitted to PhD programme (%)	50	13
Completed PhD (%)	39	4
Academic career ambition	54	28
Residents (%)	57	59
Consultants (%)	4.7	5.2
GPs (%)	13	14
Research stay abroad >3 months (%)	9.8	4.4
In specialization (%)	82	88
Work at university hospital (%)	41	37

The mean time from MD to PhD graduation was 30 months (SE 2.6) for MSRP students compared to 62 months (SE 8.5) for the controls ($P=0.0046$). The mean time from MD graduation to specialization was 10 years (SE 0.15) for MSRP compared to 8.5 years (SE 0.11) among controls ($P<0.0001$). Number of publications was 6.0 (SE 0.35) for MSRP compared to 2.9 (SE 0.30) for controls ($P<0.0001$).

Perspectives

MSRP facilitates an academic career ambition, and over the first 8 post graduate years MSRP students defend their dissertation 10 times more often than their non MSRP peers. Specialization takes on average 1.5 years longer for the average MSRP student.

Reference

Hunnskaar S, Breivik J, Siebke M, Tømmerås K, Figenschau K, Hansen J-B. Evaluation of the medical student research programme in Norwegian medical schools. A survey of students and supervisors. *BMC Medical Education* 2009, 9:43.

How do I Live? How do I Think? How do I Solve? (An Innovative approach for developing Insight by psychodramatic techniques in medical undergraduate research training)

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Introduction

Research is both science and art. Science professionals need to combine sound theoretical basis and compassion for new knowledge with personal features such as creativity, mindful awareness of the self and environment, adaptability, problem-solving and working in a team harmoniously. Thus, research training should also include the challenging integration of these 'soft science' elements to the curriculum. We report such an innovative integration in Ege University Medical School Research Scientist Track (RST) curriculum. RST is initiated in 2011-2012 with the aim to encourage and nurture young medical minds in research through a supplementary program that runs parallel to the core medical curriculum. Each year, a restricted number of eligible voluntary medical students (12-24 students) with an interest in scientific research are chosen, and scientific research skills are transferred in a 3-year research scientist curriculum via workshops, seminars, lab visits, journal clubs, etc. Our workshop is introduced as part of the RST curriculum based on literature suggesting that all emotional competencies (self- and other-awareness, presence, accurate self-assessment, emotional self-control and creativity) are fundamental in research practice, and they can be learned and developed. The assumption was that a session with appropriate psychodramatic techniques would help to increase medical students' self-reflection and alertness to any bias or prejudice that could complicate or compromise his/her research practice alone or within the research team. The workshop (5 hours) is led by 2 psycho dramatist/physician and 1 faculty member, at the beginning of each academic year. Psychodramatic techniques are used in appropriate group plays which address understanding the existing situation, knowing others from different perspectives, recognizing the relationship boundaries, developing better communication and the individuality/unity for common targets. Through the games, the students are encouraged for action, spontaneity, and creativity, the 3 fundamentals of psychodrama. Observing, describing, acting with awareness and non-judging of inner experience are prioritized. Students share their feelings and emotional experiences after each play. In the end, 2 teams are formed and they are given the instruction to build an imaginary machine by using team member's bodies-knowledge-skills. The session ends with feedbacks from students and wrap-up of the psycho dramatists; the sociometric bonds in the group are made visible, and the spirit of unity is reinforced.

Results

In the last 5 years, approximately 85 students took part, and overall feedback from the online questionnaire has been positive showing that the workshop helped students; 1) to perceive their behaviour in a different environment/setting and thus have a much fuller awareness of themselves, 2) to recognize their personal goals and functions in a team, 3) to develop stronger interpersonal relations on a deeper level with their RST peers. Overall, the students described the session as effective, enjoyable and engaging.

Perspectives

The refreshment of the analytical mind with creative spaces is fundamental to any professional, and the research scientist is not an exception. Sessions using psychodramatic methods can be strong educational tools in undergraduate and postgraduate research training programs for increasing awareness and creativity, recognizing own feelings and those of others and managing emotions.

A special study module for medical undergraduate students: Learning cell culture techniques and applications

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Introduction

Engaging medical undergraduate students in designing and executing original research should be accompanied by technique training. Special Study Modules (SSMs) are educational activities which provide the students to develop independent study and self-education skills, to learn and practice the basic principles of scientific methodology and to develop presentational skills during the first three years of medical education in Dokuz Eylul University School of Medicine [1]. During 2015-2016 academic year, we carried out a laboratory research SSM entitled 'Learning cell culture techniques and applications' in Research Laboratory. Two third-year medical students selected this module. Students were given knowledge for the SSM subject according to the SSM working plan which was prepared by the mentors. This plan included introduction to cell culture training, designing a cell culture experiment, evaluating the experimental results and writing a final report about the module. Students learned about the cell culture history, cell culture facility, cell culture materials, aseptic techniques and basic cell culture methods [2]. During cell culture training, they thawed the cells in the recommended medium. They subcultivated the cells when they became confluent, counted the cells and determined the cell viability by Trypan blue exclusion assay. After they gained experience in doing cell culture, they learned how to design a cell culture experiment and performed the experiment.

Results

Microglia are the resident immune cells of the brain and constantly survey their local environment in order to eliminate cellular debris after injury or infection. The resting microglial cells are known to transform into reactive microglia by inflammatory stimuli or injury and change their morphology. In our experiment, the students investigated the effect of lipopolysaccharide (LPS), an inflammatory stimulant which is the major component of the outer membrane of Gram-negative bacteria, on the microglial cell morphology. The microglial cells were incubated with various concentrations (100, 10 and 1 µg/mL) of LPS for 48 hours. Then the cell morphology of the microglia incubated with LPS was compared to untreated cells by phase contrast imaging. In the unstimulated cultures, the microglia had a small and round cell body. 100 µg/mL of LPS induced multiple long and thick processes. The microglial cells had short processes with the incubation of 10 and 1 µg/mL of LPS. Our data demonstrated that the microglial cells were transformed into reactive microglia by LPS and changed their morphology. The morphological differences in the microglia incubated with LPS are concentration-dependent. These results show that LPS might show its insulting effect depending on the concentration.

Perspectives

The students wrote a final report and filled out the feedback. According to the student feedback results, the students were very satisfied with this laboratory research module. They were pleased to learn how to do cell culture and to perform an experiment. They think that it is very important for a medical undergraduate student to know cell culture to understand the molecular mechanisms of the diseases and to develop new drugs for the treatment.

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Surveying the attitudes and achievements of MD-PhDs across Europe: A joint initiative of European and Swiss MD-PhD associations

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Introduction

The number of MD-PhD students is rapidly increasing in Europe due to the emergence of MD-PhD curricular programs. These programs, which allow intensive basic/translational science training parallel to the medical training, exist in two forms. The doctoral studies are imparted either, 1) in parallel to the medical degree, or 2) after attaining a medical degree, sometimes combined with a residency. Such programs are well established in Switzerland, The Netherlands, France, UK, and Germany etc. European MD-PhD association (EMPA) was formed in 2015 as an initiative to officially represent MD-PhD students and alumni across Europe. MD-PhD students and alumni from Switzerland, France, and The Netherlands are currently being surveyed through an EMPA-initiated study, which aims to ascertain the demographic profile of MD-PhD students and alumni, their attitudes towards MD-PhD education, as well as, their academic achievements.

Results

Our pre-liminary results from Switzerland show a 40% female representation among MD-PhD students. Almost half of current Swiss MD-PhD want to pursue long-term academic careers. Among MD-PhD graduates, > 50% have published more than five articles in peer-reviewed papers, and > 90% are pursuing academic careers. Balancing family life vs. work, and research vs. clinical responsibilities are considered the two most pressing obstacles to career advancement by Swiss MD-PhD graduates.

Perspectives

MD-PhD is increasingly becoming an attractive career option for medical students in Europe. A vast majority of MD-PhD students are committed to long-term academic careers. This is also evident from the fact that most of the MD-PhD alumni surveyed follow an academic career, and contribute to scientific advancement through high quality publications. In future, it will be imperative to take into account the attitudes and interests of MD-PhD students to tailor the MD-PhD curricula for most efficient outcomes.

Towards educating tomorrow's physician scientists

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Introduction

Postgraduate Medical Education (PGME) aims to educate a skilled, “fit-for-purpose” health workforce to promote health and benefit the community. But how successful the medical profession is in developing the next generation of scientists is not very well known. It is important to define the most ideal methods to conduct research in postgraduate medical education.

The Junior Doctors Network of the World Medical Association organized a 2-day workshop to identify best practices in the integration of a research component into residency education. The ethical dimensions of residents as researchers and the balance between research and clinical duties were widely discussed. In addition, the most optimal design of PhD programs during or following residency education was described.

Results

During the workshop, discussions on the timing of research training, settings to deliver such training, mentorship and funding of the programs produced novel ideas. Shortage of “physician scientists” was raised as one of the main concerns among workshop attendees; development of more effective coordination of PGME with academic medical centers emerged as a promising possibility.

International recognition of candidates who complete research training through certification, diploma and thesis appeared to be highly important. Expected outcomes of more robust research training as a component of PGME would be an increase in clinical researchers prepared to fuel medical discovery and innovation.

Perspectives

Research is one of the most important components of PGME and should be addressed by teaching institutions at local, national and international levels. Incorporating the residents to the process of research training design will make the efforts in the area more influential.

Perspectives studying neonatal diabetes in Kazakh population for physician scientists

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Background

Diabetes mellitus (DM) take 11th in the 20 leading causes of DALY in world, in Kazakhstan indicator rose from 98.7 (2000) to 104.8 (2012). One of the biggest problems is the timely detection of diabetes in children caused by genetic defects in β -cell function, which in the Republic of Kazakhstan is not diagnosed. Monogenic forms of diabetes in the majority do not have clear pathognomonic manifestations and misdiagnosed as type 1 or type 2, and also costly molecular genetic studies. Meanwhile, the identification of monogenic diabetes is changing the tactics of treatment.

Objective

To determine the prospects of studying neonatal diabetes among the Kazakh population

Methods

A literature search was conducted, using the PubMed and Cochrane data bases, for studies of identification people with DM, monogenic and neonatal diabetes. We assessed the state of carbohydrate metabolism of patients by analyzing the level of HbA1c, insulin, C-peptide. In the next phase we evaluated the state of lipid metabolism and determination of the degree of excess body weight. We have compiled a family tree of families with diabetes. Molecular genetic study of genes KCNJ11, INS, ABCC8 conducted in the genetic laboratory of the Exeter University (UK).

Results

Totally, we studied 99 people. Participants in control group without diabetes were 18, with DT1 - 8 and their families are 18, DT2- 28 and their relatives 27 people. We found 4 patients with manifestation of diabetes in the first year of life, and also both of their parents were included to the study. Middle age of the patients at the time of the molecular genetic analysis was 1.3 years (0.5-2.5 years). In 2 of 4 children (diabetes manifestation aged 4 weeks) were found heterozygous missense mutations in KCNJ11 gene, both in exon 1 - c.685G> A , c.602G> A.

In one case, a mutation occurred de novo, while in another case, the disease was familial (mother at the age of 25 years and daughter with a mutation c.685G> A). There were no mutations found in genes KCNJ11, INS, ABCC8 of other two children with manifestation of diabetes at 6 and 10 months. Furthermore, these patients had high titers of antibodies to islet cells of the pancreas. Identification of heterozygous mutations in the gene KCJN11 allows canceling insulin therapy for children if it is transient neonatal diabetes, and as for the permanent form - to transfer the child to oral treatment with sulfonylurea, canceling multiple insulin injections.

Conclusion:

Our study demonstrates the need for further research to identify neonatal diabetes among the Kazakh population. The barriers may be the lack of genetic laboratory for the detection of patients.

Research continuum from academia to clinical practice: challenges for postgraduate education and development in Georgia (case of TSU)

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Introduction

Georgia has joined the Bologna process in 2005. One of the main aims of the reform was modernization and modification of the PhD education. According to the new Law on Higher Education of Georgia the PhD education is the third level of higher education, which combines study courses and research activities (totally 180 ECTS credits) aiming to prepare research personnel and it is concluded by the awarding academic degree of a doctor. In the medical field the degree of a certified specialist is awarded after completing a six-year educational program. A person holding a master's or an equal academic degree can be involved in a doctoral program. In medicine degree diploma may be deemed as an equal degree of a master diploma. However, graduate from undergraduate medical program can continue study on PhD level.

In 2011 two PhD Programs (Faculty of Medicine, TSU): „Clinical and Translational Medicine” and „Public Health and Epidemiology” have received national accreditation. At the institutional level the Programs are regulated by the „Minimal standards of PhD Education” as well as by the Faculty Statement. The aim of the Faculty of Medicine is to harmonize PhD Education in Georgia with the PhD Education in Biomedicine and Health Sciences in the European Higher Educational Area. Together with general criterias the additional requirements for admission are defined by the Faculty of Medicine.

In 2015 Conception of Postdoctoral career was implemented at TSU. Competition at the Faculty of Medicine on the postdoctoral fellow has been announced. First cohort of postdoctoral researchers started their activities in 2015.

First research in the framework of the Postdoctoral research - „Patient's Safety in Georgia: assessment in Hospitals settings" have give us possibility to study issues related to the quality and safety in health care, among them evaluation of the quality of medical services, patient's satisfaction, safety culture and knowledge of health professionals in hospital settings in Georgia. Results of the study will be used for elaboration of the recommendations for the hospital's management and development of CME/CPD Program for clinicians and managers.

Conclusion

Georgia has already introduced majority of tools envisaged in Higher Educational System according to the Bologna Process. Implementation of the Postdoctoral career at TSU has increased employability of graduates. Currently independent legislation on Research activities in Georgia does not exist. Adoption of a new law on research, elaboration of regulations on postdoctoral level are still challenges at the country level.

Perspectives

Implementation of the Postdoctoral career at TSU gives possibility to young researchers-doctors to continue their research at the University and to translate research-based knowledge from Academia to clinical practice in order to improve quality of medical service and Population Health in Georgia.

Teaching the art of writing successful proposals in postgraduate health sciences education - through a hands-on training workshop format

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Introduction

Research training in postgraduate health sciences should provide the art and craft of writing successful proposals. Students, if any, have few relevant experiences and need considerable assistance on project writing. Our assumption was that a hands-on training in a workshop class format with a special focus on the writing aspects of proposal development would be associated with higher ratings of quality as well as higher ratings of knowledge and skills learned. Thus, we developed an elective 'Applied and Interactive Project Proposal Writing Course' in our postgraduate health sciences education to assist students in writing an effective research proposal. This comprehensive and hands-on training last 5 consecutive days and every year postgraduate health sciences students from different backgrounds and/or disciplines are encouraged to apply. The students are introduced to the basic terminology and components of a project proposal in a short lecture, and information on local/national funds are given. This is followed by active literature review of students on a simulatory grant call with a specific research topic (the effects of an antioxidant agent administered with and without an antidepressant, on behavior and BDNF in an experimental model). Homogenous teams of 3-5 students are formed based on their perceptions and previous experiences on proposal writing. After brief introductions to each proposal component (problem statement, goals/aims, measurable objectives, scope, literature review, materials and methods, project management, facilities & personnel & budget, risk management, dissemination, title and abstract), teams draft these elements in a stepwise manner on a standard proposal writing format. All writing work is done in class with engaged and interactive team work. Each written section is then shown on the screen and read by a team member. Feedbacks are given by other team members and the course director. All teams also evaluate the performance of each team in each section of the proposal on an objectively constructed feedback form. At the end of 5 day period, a complete project is developed by all teams.

Results

In the last 11 years, approximately over 200 students took this elective. Perceived knowledge and skill gain scales on the online questionnaire showed a markable improvement in students' understanding of and practice in grant proposal writing (both, $p < 0.01$). The students also felt more confident and eager about writing a project proposal at the end compared to baseline (85.5% vs 31.8% respectively). The most challenging part of the proposal writing format was reported to be defining the research question and clarifying aims/goals. The students also expressed positive feedback about the engaging educational environment (98%), beneficial educational materials (99.4%) and effective educational techniques (95.7%) used.

Perspectives

Applying the principles of any topic to a daily exercise is a very effective way of adult learning. Thus, using a workshop format in a postgraduate course is a powerful educational strategy that shifts the focus to providing tools and developing cognitive skills. Research training skills, such as effective project proposal writing should be transferred by using similar appropriate educational formats. Learning with peers in such an engaging learning environment certainly adds to the effectiveness of education.

Medical theses - effects of graduate programs at universities in Germany

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Introduction

The number of graduate programs in German medical faculties is increasing. These programs are structural diverse. In a recent online survey among German medical students we addressed the putative impact of graduate programs on medical theses. Of the currently estimated 88,000 medical students in Germany more than 1600 students participated by answering questions regarding their (ongoing) doctoral theses. We explored different areas, which to our belief are inherently related to the quality of a thesis: “support” (e.g. scholarships, summer schools, supervision), “scientific outcome” (presentation of data in a peer-reviewed process) and “student satisfaction” (e.g. with topic, schedule, communication, workplace).

Results

1,603 Students participated (64% women, 36% men, 0.2% others; average semester=9, average age=25 years). 16.5% (N=261) were attending a graduate program, while 83.5% (N=1,321) did not. Regarding all participants, nearly half of the projects (45%, N=696) were indicated to be experimental studies in a lab and an additional third (33.5%, N=516) to be clinical studies. Less than every fourth project has been a retrospective analysis or literature research.

The data were further analyzed for putative differences between students attending or not attending a graduate program (g.p.) using contingency tables and chi-square tests (SPSS 22). Regarding gender (women: 62% vs. 64%) and age (24 vs. 24 years) there was no difference between students attending a g.p. and those who don't. However, students in a g.p. were two semesters below their student fellows (8th vs. 10th semester). A significantly higher percentage of g.p.-students did an experimental lab-study (65% vs. 41%), while fraction of retrospective studies was significantly lower (9% vs. 21%). Significantly more students attending a g.p. were funded (53% vs. 10%) and taking one or more semester off class in order to realize their research projects (67% vs. 40%). The fraction of students presenting (or expecting to present) their data as a conference poster (49% vs. 25%) or presentation (28% vs. 14%) was significantly higher, too. However, the fraction of students stating, that their work is or will be part of a peer-reviewed paper were similar (44% vs. 43%). The ratings of the availability of supervisors were slightly higher among g.p. students (“completely satisfied” vs. “mostly satisfied” as revealed by a 5-point Likert-scale), while there was no difference when comparing “school grades” given to thesis projects as a whole.

Perspectives

Regarding medical theses our survey reveals differences attributable to graduate programs. Since we did not obtain details of the particular programs, we cannot say whether these differences match their specific aims or are rather unspecific, e.g. due to some kind of “positive selection” of the attending students. In our study, graduate programs seem to favor experimental lab-studies over e.g. retrospective analyses, indicating more ambitious research. The students within programs more often take semesters off class, perhaps due to the enhanced support and/or the requirements for attending a particular graduate program. It is tempting to compare g.p. and non-g.p. students regarding impact factors of resulting publications as a (controversial, but frequently used) mark for scientific quality. Regarding students' satisfaction the graduate programs surprisingly showed a rather slight advantage. Subsequent studies should compare effects of graduate programs with their particular a priori goals.

Reform of Russian PhD Education

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Introduction

Ministry of Education and Science RF and Higher Evaluation Committee RF several years ago started reform of PhD education in Russia and system of PhD-thesis evaluation. The main goal is to make up Russian science more visible in global scale. Also during this reform Russian PhD system has to become more comparable with ORPHEUS standards.

Results

On the first step of the reform it was made up a revision for evaluation committees of PhD works. Number of such committees was reduced about 1/3. The main criteria were scientific activity of all members of evaluation committee. Now it is analyzed a five-year period. During this period the member of evaluation committee has to have (at least): to be a supervisor for 1 defended PhD student; to publish 3 scientific international-recognized research articles in journals included in Web of Science, Scopus, PubMed and other international data bases; to publish 5 Russian research articles. For future it is discussed to have h-index at least 7.

Then it was made revision of Russian scientific journals. Before reform there was about 2000 journals, now the number is near to 1000; about 100 of them are in international data bases. For other journals the Russian electronic data base was made with Science Index. In future it is planned that all of journals will be included in international data bases. Now all of these journals have resume in English and per-review system.

System of PhD students' training also was reformed. Now it is more oriented for teaching of future university lectures, than scientific researches. Before defense of PhD it have to be published at least 3 research articles.

So, generally reform of Russian PhD education makes up the system of PhD training more comparable with international one, than we reported in previsions ORPHEUS conferences.

Perspectives

From our point of view, this reform did not take into account quality of education in English: it still more skills of translation, than skills in communication. So, for future PhD candidates it will be very difficult to find common language with their colleagues from other countries, so the academic mobility may be reduced.

INQUIRY PROGRAM:

A 4-year research curriculum in undergraduate medicine

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Introduction

Physicians use the tools of a scientist when making clinical decisions.¹ They are responsible for the generation of new knowledge, effective communication with researchers, and they convey clinical and translational research results to the community. To do so, they must be knowledgeable of the relationship between research, theory and practice. This expectation drives the need for physicians to actively engage in research because they bring clinical needs into research and apply their findings in clinical practice.^{2, 3}

Results

The mission of the Office of Medical Student Research (OMSR) is to educate students about biomedical research to further promote the development of student's critical thinking, innovation, leadership, and moral and civic skills and abilities to the fullest. The Inquiry Program is a research curriculum, which is integrated throughout all four years of medical student training. Here we describe the design, development, implementation, review, and revision of a research curriculum delivered to support the development and practice of evidence-based medicine:

CASE (16 contact hours; 347 students served to date): students use the JAMA evidence strategy⁴, learning to analyze peer-reviewed literature to make informed, sound, evidence-based decisions.

Discovery (12 contact hours; 73 students served to date): a course exposing students to research opportunities and resources to assist students in identifying interests leading to the selection of a project and mentor required during the PLAN course and their Research Immersion.

PLAN: (16 contact hours; 170 students served to date): provides students guidance and instruction while designing a research project, which they execute in the Research Immersion.

Research Immersion (3-6 months; 153 students served to date): a course where students individualize coursework to build upon and further develop knowledge acquired during the first two years of medical school.

Perspectives

The Inquiry Program's assessment is focused on gauging understanding of the research process, not production of data. The aim of this initiative is the cultivation of physicians with a rich awareness of research methodology, the critical evaluation of research, and the understanding of the contribution of research to our clinical evidence base so that they may support and engage in research throughout their professional careers.

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Development of doctorate degree in Kazakhstan

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Introduction

The Doctoral program of Kazakhstan takes 3 years and should be finished by research thesis with a definite scientific contribution on an international level. Credit system of education includes educational, scientific and teaching program. According to the National standards for PhD degree program there are four specialty of PhD educational programs - «General medicine» and «Public health», «Pharmacy», «Technology of pharmaceutical production». The Doctoral program takes 3 years and should be finished by research thesis with a definite scientific contribution on an international level. Credit system of education includes educational, scientific and teaching program.

Educational Credits for doctoral study in the first year includes philosophy, pedagogy, methodology of research, biostatistics. 2 and 3rd year of training is devoted to research and PhD student teaching practice. During the research work they can use a laboratory equipment of university.

Necessary for doctoral research is scientific training. The purpose of the training was to conduct research under the supervision of doctoral foreign managers. The training program has been developed with multi-directional scientific interests of the participants and included a search on the topic of scientific dissertations in library's electronic databases.

Results

During the doctoral program PhD students are published not less than in 7 publications. One of them has to be in the international scientific edition having an impact-factor (ISI Web of Knowledge, Thomson Reuters) or indexing the Scopus database.

Perspectives

- Improvement the quality of postgraduate education. Development and research.
- Compliance with doctoral programs of Kazakhstan with foreign universities programs.
- Expansion of International Relations Scientific Society

PhD program in Biomedical Engineering at the University of Basel

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Introduction

Biomedical engineering is one of the most interdisciplinary and demanding field in today's research. Numerous kinds of expertise are involved in biomedical projects including, among the others, biologists, physicists, medical doctors, mechanical and electronic engineers, physiologists, computer scientists, etc.

A key for the success of the newly formed PhDs in Biomedical engineering is therefore a knowledge as wide as possible of the interdisciplinary aspects of their projects.

In this regard we developed a PhD program (1) with the aim to provide the students advanced educational tools to complement the standard doctoral supervision.

Results

The PhD program in Biomedical Engineering developed at the Medical Faculty of the University of Basel offers three types of educational activities: semester courses, monothematic seminars and summer schools.

While semester courses are focused on the common aspects of biomedical engineering to level the students' knowledge, seminars aim to provide the cutting-edge aspects of research activities by specific invited talks of well-known experts. Summer schools are organized in a more interactive way with the goal to take the advantage of expert lecturers to solve and improve practical issues of students' project. This year's summer school about "*Computational Biomechanics: dynamics of human being from biomolecules to entire body*" will take place in the Swiss Alps and involves two to four speakers from North America.

Moreover, the PhD program financially supports the mobility of doctoral students and their supervisors funding the participation to subject-specific courses and workshops at other universities.

A last aspect that we keep in high consideration is the integration of doctoral students in order to establish their first basic network. According to the standards proposed by the European Organization for PhD Education in Biomedicine and Health Sciences (ORPHEUS) and the guidelines of the European Union, participants will benefit of the PhD training Platform of Health Sciences of the University of Basel (PPHS) (2). Such platform supports students in building their skills and abilities and offers the possibility of integration among all doctoral students of the University of Basel in the field of Health Sciences.

Perspectives

During the PhD program, we expect to enrol 20 PhD students in total. Moreover, a Master's program in Biomedical Engineering is planned in order to foster the basic education of our future member of the PhD program.

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- (2) <https://pphs.unibas.ch>

A quantitative analysis on improving the quality of Phd Program of Health Sciences Institute of Celal Bayar University

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Introduction

In planning and analysis of education, educators' and students' feedbacks are used. The effectiveness of the existing educational program, causes and solutions of the failed parts can be identified with the help of this analysis. In this study we aimed to investigate the quality of the PhD program in our university and assess the necessities in order to improve the education with views of students and faculty members.

Materials and Methods

This cross-sectional study was carried out in Celal Bayar University, Institute of Health Sciences. The data was collected from faculty members and faculty students via questionnaire. Statistical analyses were performed with SPSS (v15.0; Windows). Fisher's exact test and Chi-square test were used for statistical analyses.

Results

64.9% of faculty members (n:14) and 36.8% of students (n:19) were male. Mean age of faculty members was 46.35 ± 8.12 and mean age of students was 32.73 ± 4.48 . Following issues were considered as satisfying by faculty members and the students respectively; 35.7% and 47.4% for general physical conditions, 42% and 73.7% for student affairs office services, 35.7% and 36.8% for online library services, 85.7% and 89.5% for having a consultation from the advisor, 57.1% and 89.5% for professional motivation and maintaining the environment for carrier planning, 85.7% and 84.2% for maintaining the environment for a collaborate study, 71.4% and 57.9% for finding adequate support for a scientific study, 78.6% and 52.6% for participating in a project with the student and faculty member, 85.7% and 73.7% for publishing a paper with student and faculty member, 57.1% and 84.2% for participating in a congress with student and faculty member, 50.0% and 57.9% for participating in a paper presentation, 85.7% and 84.2% for periodic presentations. Participants were also asked to make some suggestions to improve the quality of the PhD program and they made following suggestions; improving the quality of the services and the general physical status, redesigning the acceptance rules for the PhD program in a more complicated manner. They also suggested that faculty members should improve their knowledge and keep up with the novelties.

Perspectives

We could not find a significant difference between faculty members and the students in terms of their opinions about quality of the PhD program and the things that are needed to improve the quality. We can conclude that students need more support for article writing, paper presentation, participating in congresses and projects.

The influence of stress on the daily life of a young doctor

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Introduction

A young doctor has to face a number of difficult decisions. Each of them has to do with how his future will look like. The choice of specialization is often associated with moving to another city or even another province. The complicated system of qualifications one must pass before specialization takes place during the whole internship period. The young doctors are subjected to the negative effect of stress while waiting for the results of the qualifications. Additionally, their daily professional routine adds to the negative effects of stress.

Results

The study was conducted on a group of 41 young doctors. 23 women and 18 men. The average age was 25.6 ± 0.8 years. Stress is felt during the public speaking in the majority of the study group (68.3%), with 12.2% affecting only relationships. Approximately 51.2% of respondents, in dealing with stress, use the help of a friend and "music therapy", 46.3% use sleep to deal with their troubles, three people (7.3%) use a medications. 46.3% has no problem coping with stress themselves. Among respondents 48.7% gives say headaches as a symptom of stress, 31.7% abdominal pain, 29.3% headache, 19.5% hand tremors. Only 5 (12.2%) of people get confused.

Perspectives

In addition to the stressful situations of excess labor, a doctor works under the pressure of time. An additional factor one's susceptibility to stress and how one copes with it whether at home or not. It is necessary to teach young doctors to deal with stress in and out of work. Workshops with a psychologist should be conducted for future doctors during their studies.

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Facing the challenge with the absence of pulmonary hypertension registry in Kazakhstan

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Introduction:

Register is a convenient and cost-effective tool for the collection, processing and analysis of data on disease entities and characteristics of the patients. In the diagnosis of pulmonary hypertension in the Republic of Kazakhstan, we met with the problem of the lack of a register.

Register is "an organized system that uses observational study methods to collect uniform data (clinical and other) to evaluate specified outcomes for a population defined by a particular disease, condition, or exposure, and that serves one or more predetermined scientific, clinical, or policy purposes" [1] or «a list of patients presenting with the same characteristic(s). This characteristic may be a disease or an outcome (disease registry) or a specific exposure (exposure or drug registry) [2].

The aim

To develop the layout of the register of pulmonary hypertension of Kazakhstan based on international experience.

Material

We analyzed the records of 12 national registries of pulmonary arterial hypertension from 7 countries (see. Table 1) [3]–[8]. In total, all registers contain information about 8937 patients older than 18 years (except for the United States National Register REVEAL – older 3 months, and Spain, above 14 years old) with group I pulmonary hypertension from 186 referral centers. Registers contain important information on the epidemiology, clinical features of the disease (functional class, the results of echocardiography, right heart catheterization, six-minute walk test), the phenotypic characteristics of the patients (age, sex) and survival data [3]. Another important register option is to develop a predictive equation [5] that allow us to determine trends and to provide for variations in the clinical course of pulmonary hypertension. As part of the registers were carried out studies on time, only one is a retrospective, two - combined (retrospective and prospective), all the other (8), prospective registries until 2011 [4]–[10].

Results

The data obtained served as the structural basis for the Register of patients with pulmonary arterial hypertension (idiopathic, congenital heart disease, systemic diseases of the connective tissue), adapted for the conditions of the Republic of Kazakhstan. It was defined criteria for inclusion in the register. The main bases of data collection are Almaty (Scientific Center of Pediatrics and Pediatric Surgery and the Institute of Cardiology and the Internal Diseases) and Astana (National Research Cardiac Surgery Center and the National Research Medical Center), equipped for the evaluation of patients with PH (according to protocols 2015).

Conclusion

In the creation of PAH registry in Kazakhstan should be considered long distances between settlements and the regionalization of health services. Given the characteristics of the health care system, the proposed form of the register.

Evaluating the doctoral theses in the field of Public Health Nursing in Turkey

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Introduction

The objective of doctoral program in nursing is to contribute to the formation of the scientific knowledge content of profession, solve the problems being encountered in nursing practices and have a systematic approach toward incidents by using the results of evidence-based researches. It also enables students to make independent researches and gain a broad point of view. This study was conducted in an attempt to evaluate the features of doctoral theses in the field of public health nursing in Turkey.

Method

In this retrospective and descriptive study, the theses were reached by scanning the “National Thesis Center”, which is a website of the Turkish Higher Education Institution (YÖK). In the study, full texts of doctoral theses in the field of public health nursing were scanned. The theses were evaluated via a questionnaire form that was developed by researchers as eight items, in terms of the universities where they were done, year of completing, subjects being studied, sample groups, models being used, research type, state of theses to be accepted as projects and supports from other projects. The data were evaluated by using the SPSS 16.0 software via numbers and percentages.

Results

In the study, a total of 77 doctoral theses that were done in the field of public health nursing between 2000-2014 and could be accessed as full texts were reached. 23.4% of theses were done in Atatürk University, 20.8% Ege University and 19.5% Hacettepe University. As a result of an examination, it was determined that doctoral theses in the field of public health nursing mainly focused on behavioral changes of individuals like exercise, nutrition, smoking cessation and early diagnosis, and they were followed by theses on the compliance to treatment and disease in chronic illnesses. 85.7% of theses were single-stage and 13% were two-stage. Majority of single-stage theses were quasi-experimental studies with pretest-posttest control groups and the least worked study type was observed as experimental studies with pretest-posttest in single groups (1.5%). Majority of two-stage theses contained both qualitative and quantitative research methods. While 62.3% of theses used models/theories; some theses used two models at the same time (9.1%). The most frequently used model was Health Belief Model, which was followed respectively by Transtheoretical Model, Supra-Theories Model, Social Cognitive Theory and Roy Adaptation Model. The studies were usually conducted with women (19.5%); as well as adolescents (18.2%), adults with chronic diseases (14.3%) and elder individuals (11.7%). The least worked groups were children, the poor, street children and workers (1.3%). 35.1% of theses were accepted as projects and 88.9% of these projects were supported by scientific research projects of universities. While one of the theses is the United Nations project; another is the TUBITAK (Scientific and Technological Research Council of Turkey) project.

Conclusion

Doctoral theses in the field of public health nursing have increased especially since 2011 and it is important to evaluate the studies in terms of methodology and findings as it would be applicable and guide future studies.

What is the recipe for successful doctoral training in life and health sciences?

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Abstract

Following a Masters Degree, many graduates wish to continue their studies in scientific research. The PhD thesis is the opportunity to live an extensive and challenging research experience, which is awarded with a "Doctorate Degree".

The chosen field of study may vary (e.g. ecology, biomedicine, computational biology, microbiology, bioethics or clinical studies), however common to each PhD thesis is the chance to participate in an interdisciplinary "living knowledge" project that is fuelled with innovative research and advanced continuing education programs.

Furthermore, graduates evolve to take on careers in different fields such as academic research, private industry, international and/or non-governmental organizations, governmental institutions (hospitals), museums, journalism, public administration, federal research institutes, bioinformatics or environmental protection (just to name a few).

In our poster presentation, we will explore the role of supervisors, advanced continuing education programs, associations of junior researchers, mentoring programs, alumni and networking events during a thesis and examine how these contribute to prepare for successful careers in a world that encourages exploration.

Considerate mentorship and individualized training for Life Science PhD Students at the Integrated Graduate School “TRAM” of the Collaborative Research Centre 807 in Frankfurt, Germany

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Abstract

Since 2009, the integrated research training group TRAM (Transport and communication across biological membranes) of the Collaborative Research Centre 807 (CRC 807) merges education and research in competitive areas within Biochemistry, Biophysics, Structural Biology and Chemistry at the Goethe University and the Max Planck Institute of Biophysics in Frankfurt, Germany and complements this scientific education with individualized transferable skills training.

Our mentoring concept is mandatory, individual and considerate. At the beginning of the doctoral study each TRAM member chooses a team of three mentors, which includes the direct supervisor. With the support of the scientific coordinator of TRAM, this mentoring team provides continuous feedback and support, and defines additional scientific and generic education opportunities the candidate should implement.

The PhD students are integrated in lively TRAM events like student lectures, career seminars, transferable skills training, and discussion rounds. We are providing a focused but enjoyable atmosphere, in which our members can present and discuss their project data amongst peers and have the opportunity to exchange experiences with other researchers. To encourage international networking and scientific exchange TRAM supports its members with travel funds for the participation at conferences and for research visits at external labs. Furthermore, TRAM grants attractive short-term fellowships to qualified candidates during their initial PhD phase, facilitating a straightforward start of new projects.

It is worth mentioning that TRAM is a program developed for, and co-organized by PhD students as members of the TRAM steering board and the CRC 807 guest speaker committee. The students appreciate to train their organizational skills, to bring in their creativity, and to participate in decision-making processes.

(Funded by DFG)

Doctoral training in Ukraine: toward international standards

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Introduction

Despite 25-year history of independence, Ukrainian educational and research system was based on former soviet traditions and was unable to provide young scientists opportunities for self-realization and carrier development. It was caused by the nfollowing factors: 1) shifting of doctoral training to research with few educational courses; 2) focussing of doctoral education on the main speciality, philosophy and foreign language; 2) conduction of nationally recognised scientific research with dissemination through domestic scientific journals. These traditions, accepted for a long period of time, led to retardation of science development and brain drain.

Results

In 2014 the innovative Law of Ukraine "On Higher Education" was adopted, strategically directing Ukrainian Educational and Research areas to international standards. The law envisaged organizational, academic and financial autonomy to the higher educational institutions. In line with the Law "On Higher Education", the "Procedure for the training of philosophy doctors" was developed. It determines requirements and structure of educational programme for philosophy doctors, as well as facilitates the quality of research project targeting to achieve the international standards of PhD degree. Nowadays, reorganisation of doctoral trainings in Ukraine is considered to be a key tool for improvement of national science and higher education. This idea is the most crucial in sphere of biomedical and a health science since lack of PhD-training both limits competencies of academic staff in Medical Universities and determines the block of development of national medicine at the whole. Actually, development and implementation of PhD-programmes in Ukraine need the following:

- Improvement of policy making and implementation process in sphere of PhD-programmes in Biomedicine and Health Sciences
- Establishment of close links between policy-making and institutional strategic development in sphere of PhD-programmes
- Reorganisation of internal system of doctoral training administration and quality assurance at institutional level.
- Development of human resources by international cooperation as it is crucial factor in successful planning and implementation of internalization of PhD in Ukraine

Indeed development and implementation of PhD programmes in accordance to international standards requires knowledge and experience, strong research and educational environment, as well as appropriate human and financial resources. Unfortunately, the most of Ukrainian universities face the lack of these factors. The solution of this problem is external cooperation with strong European Universities and internationalization of doctoral training in biomedicine and health sciences using current best practice.

Perspectives

Ukrainian institutions are open for cooperation with strong European institutions for globalisation and implementation of Best Practice of doctoral training in Biomedicine.

Experience in organizing and carrying out IWDT

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Introduction

Current trends in higher education in Kazakhstan need to enhance the role of the student independent work and the integration of new information technologies in the educational process, because proportion of classroom and extracurricular work reorients the entire educational process to self-organization, self-development, personal interest and motivation to student learning.

Using of computer technology enables the teacher to better organize the work in conditions of insufficient classroom time, the possibility of the virtual, individual and group communication with the students, the ability to distribute run-time operation, obtaining the necessary advice from the teacher and the timing of delivery of the finished work.

Results

At the Department of Molecular Biology and Medical Genetics KSMU on the subject "Molecular genetic pathophysiologic basis of disease" the organization IWDT used technologies e-learning based on virtual learning environment Moodle, electronic written works: the drawing up of a structurally-logic elements and research-based learning (RBL- research bases learning) - essay writing, writing summaries. The choice of these electronic written work was dictated primarily by the following criteria: maximum concentration, the ability to clearly and correctly express the essence of the problem on the chosen theme, structure information found in the available literature and the Internet, draw conclusions, own writing skills are required from students; promotes the development of science research skills. The use of e-learning technology allows the doctorate student work on the uniqueness of the text; store proven reference and comments in the inspection database for reporting, spend analysis; provide feedback.

Analysis of the IWDT has revealed a number of problems, the main ones are: the need to develop appropriate tasks that may be useful when working in information educational shells and have a scientific-oriented focus, the need for fast (express), objective criteria for job evaluation as verification of written works and writing reviews greatly increases the time required.

Perspectives

Experience shows that when organizations IWDT in the information educational environment, it is necessary to take into account the level of preparedness, and the inclination of each doctorate student. Applied tasks for IWDT should include the main part (to which all learners) and an additional part (for those who can and tries to cope with the more difficult non-standard tasks), contain clear performance algorithms. In designing tasks to use the opportunity to check on the score sheets, the use of digital written work testing technologies. Under the conditions of credit technology increased demands on the teacher, it is necessary to possess modern interactive teaching methods, information and communication technology, to be able to develop a comprehensive educational-methodical documentation taught discipline.

International profile, educational background and funding of PhD Candidates at the University of Bergen

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Introduction

Being a PhD candidate in Norway is regarded as an employment, not only being a student enrolled in an educational university programme. This means that to enrol in a PhD programme at the University of Bergen, candidates must first secure funding, not only for the project, but also for their living costs. While there are some PhD training fellowships offered by the university, the majority of our candidates have funding from external sources. The objective of this analysis was to explore the current status regarding nationality, educational background and funding of PhD candidates enrolled at our Faculty of Medicine and Dentistry.

Results

Nationality

Two thirds of the PhD candidates at the Faculty of Medicine and Dentistry have a Norwegian citizenship. The foreign candidates are recruited from a great variety of countries, as close as Sweden and Denmark, but also as far away as Uganda, Vietnam, USA and South Africa. The three largest groups come from Germany (14), Ethiopia (13) and Uganda (11). Our current candidates, about 500 in total, come from 53 different countries.

Educational background.

As a Faculty of Medicine and Dentistry, one would consider that our PhD candidates are mainly medical doctors or dentists. However, our admission data shows that this is not the case. In addition to clinical research, the Faculty also has a major portfolio of research within more basic, translational and public health-related research, both in Norway and abroad, and this is reflected in the profile of the candidates. Among 90 the candidates that started their PhD studies in 2015, less than half had a degree in medicine or dentistry. Other backgrounds included master degrees in pharmacy, nutrition, biology, chemistry, statistics, public health, health policy, physiotherapy, nursing etc.

Funding

PhD training fellowships offered by the university are openly advertised, and all applications are considered by a committee following strict criteria that are available online. Approximately 2/3 of the PhD candidates who are employed under this funding scheme are Norwegian, while the remaining third are non-Norwegians and come from 20 different countries. Interestingly, the exact same ratio is found when looking at the total number of candidates at the Faculty.

Almost 10% of the candidates are funded by international organisations, mainly national schemes from the candidate's home country, EU projects or the Norwegian Quota programme, a development scheme aimed at capacity building in partner countries in the developing world.

Perspectives

The Faculty of Medicine and Dentistry, University of Bergen is a diverse and international research university. This is reflected by different educational backgrounds and a great variety of nationalities of their PhD candidates.

THE TRAINING PROGRAM – a tool for improving the quality of doctoral studies

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Introduction

The documents which define the legislative framework for the organization of the doctoral studies in Romania are the National Education Law no. 1/2011 and the Code of University PhD studies, approved through the Governmental Decision no. 681/2011. According to these files, the doctoral studies organized at the University of Medicine and Pharmacy “Grigore T. Popa” Iasi ensure the formation of young researchers by means of two types of programs: the general training program (first year of doctoral studies) and the individual program of advanced research (the next three years).

Results

Starting from 2012, our training program is organized in 10 modules: (1) Fundamental principles in the scientific documentation specific for Biomedicine and Pharmacy; (2) Fundamental principles in scientific writing specific for Biomedicine and Pharmacy; (3) Fundamental principles in the ethics of biomedical and pharmaceutical research; (4) Fundamental principles in the methodology of clinical research / pharmaceutical research; (5) Advanced research methods and techniques in Biomedicine / Pharmacy; (6) Management and leadership in research; (7) Management of research projects; (8) Applied statistics in Biomedicine and Pharmacy; (9) Development of language abilities specific for scientific communication; (10) Fundamental principles in the usage of information technology for research.

In order to increase the quality of training program, several measures were implemented, as follows: (i) restructuring of curriculum and syllabus in accordance with the international directions in fundamental theoretical and practical training of the PhD students; (ii) adaptation of style used for preparing the lecture support destined for the PhD students to the modern and attractive methods, concurrently with the abandonment of the classic style that abounds with informational excess, in the manner of a super-specialized monograph; (iii) stimulation of the individual study by homework, problem-based learning, tests and completion of a personal portfolio.

The evaluation of the satisfaction degree of PhD students towards the training program is performed at the end of each first year, through questionnaires. Each of the 10 modules was appraised on a scale from 1 to 5 (1 – unsatisfied, 2 – medium satisfied, 3 - satisfied, 4 – well satisfied, and 5 – very well satisfied) taking into consideration the following five questions: (i) The subjects are relevant, applicable and useful in relation to the concrete objectives of the personal research that you intend to develop in the PhD thesis?; (ii) The teaching style is interesting and stimulating?; (iii) The teaching material is up-to-date and well documented?; (iv) The contents is organized, systematic and coherent?; (v) The logistics are useful in the illustration of the notions presented?. The results indicated that 90% of the PhD candidates consider this program as very useful in their formation.

Perspectives

The structure of the training program offers through well-defined objectives professional and transversal competencies that enable the PhD student to know and apply the research methodology and techniques, build original ideas translated into research programs starting from the comprehension and critical analysis of the achievements of other researchers, and to learn how to disseminate or publish the results of the research.

PhD in Ukraine: mathematics of success or survival?

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Introduction

It is not a secret that PhD as scientific degree and doctoral training in Ukraine are extremely different from those in EU countries. Widely discussed problems of Ukrainian research environment, science management, lack of funding and economic crises created the notion of weak Ukrainian science. On the flip side it is well known that Ukraine is rich in talented youth and has great potential. The question is, whether it is possible to conduct qualitative research in Ukrainian institutions and get PhD that will be recognized in EU countries?

Results

Experience shows, YES. It is possible to conduct a high quality research and publish its results in high ranking peer-reviewed journals. However it is still unclear how to achieve such goal? Here are some ways from Ukrainian scientists' experience:

1. Forget about national rules of how to get PhD in Ukraine and former soviet countries though it is important to acknowledge and learn from previous mistakes.
2. Study English as international language of education and research.
3. Learn the rules of EU PhD programmes and expected learning outcomes.
4. Self-awareness is a good place to start. Reading of books, journals, on-line resources and practice are the best investment of time and effort.
5. Be mobile and adaptive. Mobility gives the opportunity to recognize the diversity of scientific community and to diversify research skills in order to maximise learning achievements and experience. In addition, it stimulates flexibility and test the transferability of skills.
6. Take the lead and responsibilities. Leading an initiative puts you in good stead for new opportunities development.
7. Get connected and share your ideas. Sharing knowledge has a valuable impact on self-development, but two-way exchange is preferable.

Finally, the goal to conduct a good research in Ukraine is feasible. But what is the prize for such success? The best outcome of career development after PhD is getting the academic position at University with salary about 50-100 euros. Is it worth it?

Perspectives

Fortunately, despite all the problems there are some talented and selfless teachers and researchers in Ukraine who continue their activities at the higher school to encourage Ukrainian youth for building the knowledge society.

Improving students' performance in biomedical doctoral programs: An institutional study

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Abstract

Defining success in graduate school is difficult and there are multiple ways of defining “successful” programs and students. One way of measuring success of a graduate program is students’ completion rate and number of publications produced per graduated student within a doctoral thesis. An internal analysis of graduation success at the University of Split School of Medicine PhD programs conducted in 2011 revealed that only 10% of students who enrolled and completed their graduate coursework between 1999 and 2011 earned a doctoral degree.

In this prospective cohort study we examined the differences among three PhD programs within the same medical school, where the newest program called Translational Research in Biomedicine (TRIBE) attempts to increase the success rate through innovative approaches. TRIBE program was established in academic year 2010/11 with the goal of improving low PhD program completion rates. The main improvements were related to a) recruitment strategy based on applicant’s defined research plan, b) introducing multiple reports and continuous monitoring of students and their mentors and c) interdisciplinary approach.

We evaluated performance of PhD students of the three programs and analyzed their current status, time to degree (time from enrolment to the doctorate), age at doctorate, number of publications within a doctoral thesis and quality of students’ publications.

Implementation of these improvement strategies resulted in higher graduation rates, reduced time to degree and increase in quality and number of publications that are published as a part of doctoral thesis.

The impact of the field of biomedicine on the differences in international visibility and collaboration among PhD students at Faculty of Medicine University of Osijek, Croatia

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Introduction

PhD students enrolling postdoctoral program of Biomedicine and health at Faculty of Medicine University of Osijek (Croatia) are of different background, including basic medical sciences (13.2%), clinical medical sciences (60.4%), public health (20.8%), dental medicine (3.8%) and pharmacy (1.9%). Their everyday workload and time dedicated to research activities differ significantly which could also have significant impact on their international visibility and collaboration. Therefore, the aim of this study was to assess the number of published papers, attended international conferences, active participations in research projects, granted scholarships and collaborations with foreign or domestic institutions.

Results

We found significant differences among the PhD students when the assessed parameters were compared among the different fields of biomedicine. PhD students – basic scientist had significantly more published papers ($p=0.008$); however, public health practitioners were also more frequently among PhD students with 4 or more published papers. Interestingly, clinicians were frequently among PhD students who attended 4 or more international conferences, likewise the basic medical scientists ($p=0.094$). Most clinicians, public health practitioners and dentists were not currently enrolled in granted research projects ($p=0.017$) neither had received scholarships for study visits abroad ($p=0.020$). Active collaboration with domestic and foreign institutions was more frequent among basic scientists, and none of the dentist reported active collaboration ($p=0.003$).

Perspectives

Our results demonstrate significant differences in the international visibility and collaboration among PhD students of the different fields of biomedicine. These differences might be a result of diverse everyday work and time available for research activities; however, the leadership and the teachers of the Faculty of Medicine University of Osijek should take special care of promoting active participation in ongoing research projects and collaboration with basic scientists in order to enable equal opportunities to all PhD students.

Future health of PhD Students

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Introduction

Chronic non-communicable diseases have common risk factors more of those are corresponded to men behavior. Determination of such risk factors is useful for risk management and development of prophylaxis programs.

Methods

We had examine health of 219 PhD students of Moscow State University of Medicine and Dentistry.

Results

At the first stage of research we studied what factors can be connected with smoking of PhD student. The major factors connected with smoking were: gender, and level of physical activity. It was demonstrated that among smokers young men prevail twice. Smokers spend more time in a sitting position during the day in difference from non-smoking; it seems to be a tendency of hypodynamia among smokers.

It should be noted that it was proved that smoking was connected with the majority of anthropometrical indicators and the parameters of composite structure of a body determined by method of a bioimpedance. The most important ratios, from our point of view, were: changes of contents of fatty tissue, active bone muscle mass, skeletal muscle mass, water and mineral weight.

We demonstrated overweight prevalence in smoking PhD students in comparison with non-smoking persons. The average weigh of smokers was higher than for non-smokers on 9.6% ($p < 0.05$). The waist-hips ratio in smokers is higher, than in non-smoking on 5.8 ($p < 0.05$); which is a symptom of the central obesity.

Generally levels of physical activity and overweight among PhD students were comparable of those for medical students of our university (smoking and non-smoking groups). It may be concluded that behavior risk factors for PhD students are formed during their previsions education as medical students.

Perspectives

So, it may be concludes that smoking for PhD students is a risk factor for future development of heart disease and other chronically non-communicable diseases. Also smoking PhD students have risk factors as overweight and hypodynamia. So, prevention programs for PhD students have to be developed.

on-course®: European courses in biomedical research at your fingertips

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Introduction

on-course® is the most comprehensive postgraduate biomedical course database in Europe [1]. Launched in February 2012 it has grown rapidly. Currently the on-course® database contains more than 7,000 European courses from a wide range of disciplines relevant to biomedical research, including courses on transferable skills.

Methods

on-course® was designed and built with input from a broad stakeholder group from industry and other employers, academics, students, policy makers and course providers. Continuing analyses of on-course® data regarding trends and gaps and surveys on demand areas formed the priorities within on-course®. Together with IT experts, the on-course® curators have developed many ideas for additional functionalities and services. The current Django open-source content management system enables the on-course® team to react effectively to customers' requirements.

Results

Course seekers are offered free-text search with advanced search filters. The bookmarking function allows pooling courses in comparison lists. Registered users can define search preferences in their user profiles for repeated use. All data fields are implemented in a structure [2] which prepares on-course® for automated feeds from course providers' databases. Course providers benefit from an easy-to-use data entry and editing system. In the recently introduced Toolkit for Trainers course providers find advice on choosing appropriate teaching methodologies. A learning-style quiz and a repository of teaching methodologies are also included. The on-course® platform provides detailed background information to users including statistics, relevant publications, live-data graphs, information about gaps and trends and other facts and figures relevant for biomedical education and training [3]. In the back-end on-course® curators can run effective queries to monitor course information. A range of functionalities are implemented in support of the research on on-course® data allowing effective data screening, analyses and interpretation on trends, gaps and other relevant findings.

Perspectives

The current Google Analytics data for on-course® shows steadily increasing user numbers. Future plans are aiming at linking courses to competency profiles. on-course® will soon include training courses for managers of research infrastructures [4]. on-course® is also exploring options of supporting the European science4refugees initiative [5].

References

1. Payton A, Janko C, Renn O, Hardman M, EMTRAIN Consortium: on-course® portal: a tool for in-service training and career development for biomedical scientists. *Drug Discov Today*, 2013; 18(17–18):803–806. doi:10.1016/j.drudis.2013.04.004
2. <http://www.xcri.co.uk>
3. Payton A, Dallakian P, Fitton A, Payton A, Hardman M, Yuille M: Course fees and academic ranking: insights from the IMI EMTRAIN on-course® database. *Drug Discov Today*, 2014; 19(7):830–830. doi:10.1016/j.drudis.2013.12.001
4. <http://ritrain.eu>
5. <http://ec.europa.eu/euraxess/index.cfm/jobs/science4refugees>

Analysis of quantitative indices of supervision of classical doctorates and PhD candidates at Faculty of Medicine University Belgrade

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Introduction

The Faculty of Medicine University of Belgrade (FMUB) has the longest tradition in education and research among medical faculties in Serbia. In accordance with the Law on Higher Education, FMUB has been conducting PhD academic studies from 2006, when first two modules, Molecular Medicine and Epidemiology started. In 2011 additional 13 basic, preventive and clinical modules were accredited. The aim of this study was to analyze quantitative indices of supervision of classical doctorates and PhD candidates at Faculty of Medicine University Belgrade.

Results

Number of papers and their cumulative impact factor (IF) as well as time to completion of thesis were determined as measures of mentees success with regard to type of doctoral education, demographic characteristics of supervisors as well as thematic field. One hundred ninety seven (197) active Mentors with successful candidates who supervised 255 classical doctoral candidates and 34 PhD candidates were included in the analysis. Average number of papers with IF was higher in the group of PhD candidates when compared with classical doctorates (1.89 vs. 1.03, $p < 0.05$). Moreover, PhD candidates had significantly higher average cumulative IF compared to classical doctorates (3.98 vs. 1.71, $p < 0.001$). However, average time to completion was significantly longer in a group of PhD candidates (6.03 yrs vs. 3.63, $p < 0.001$). Mentors age and gender did not influence the indices of mentees success. Thematic field did not influence the IF of published papers among classical doctorates, however among PhD candidates experimental medicine was associated with highly ranked papers ($p < 0.05$).

Perspectives

Analysis of quantitative indices of mentoring (number of papers, cumulative IF, time to thesis completion) at FMUB between 2009-2014 was useful as a tool to monitor improvement in the outcome of doctoral education after accreditation of new PhD program. Demographic characteristics of mentors do not influence the thesis outcome independently of the type of doctoral education. Mentor's discipline might be important in terms of cumulative IF per thesis. Key indices on each supervisor mentee relationship in PhD programs should be collected.

11th ORPHEUS Conference

Overview of the guest speakers and chairs of the workshops

Akdogan, Gul Guner- PhD, Prof.

ORPHEUS General Secretary

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<http://www.orpheus-med.org/index.php/about-us/11-cv/83-professor-dr-gul-guner-akdogan-cv>

Guest speaker

Session V: Impact of innovations within doctoral education

Bahar, Zuhail - RN, PhD, Prof.

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Guest speaker

Session III: Graduate programs for clinicians in biomedicine and health sciences

Barnett, Joey V - PhD, Prof.

Prof. of Pharmacology, Pathology, Microbiology and Immunology and Pediatrics

Acting Chair - Department of Pharmacology

School of Medicine, Vanderbilt University - Vanderbilt Univ. Medical Center Nashville - Nashville, USA

e-mail: joey.barnett@Vanderbilt.Edu

<https://medschool.vanderbilt.edu/pharmacology/faculty?facid=730>

Guest speaker

Session V: Impact of innovations within doctoral education and

Chair of the workshop A - MD-PhD programs in Europe

Berger, Thomas - MD, MSc, Prof.

Vice-Director Clinical Dept. of Neurology / Chair Clinical PhD Programs at MUI

National Multiple Sclerosis Coordinator Austrian Society of Neurology

Head Neuroimmunology and Multiple Sclerosis Clinic & Research Unit

Clinical Dept. of Neurology / Medical University of Innsbruck (MUI) - Innsbruck, Austria

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Guest speaker

Session III: Graduate programs for clinicians in biomedicine and health sciences

Borovecki, Fran - MD, PhD, Prof.

Assistant Professor at Department for Functional Genomics,

Center for Translational and Clinical Centre for Translational and Clinical Research

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<http://phd.mef.hr/professori.asp?jezik=en&id=36> and <http://www.genome.hr/>

Guest speaker

Session II: Perspectives for physician scientists in the 21st Century

Coric, Vesna - MD, PhD

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Chair of the ORPHEUS Students Workshop

The role of the student-representation in the establishment and operation of doctoral programs

Fored, Michael - MD, PhD, Prof.

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Lecturer and consultant at the Clinical Epidemiology Department

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Guest speaker

Session III: Graduate programs for clinicians in biomedicine and health sciences

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<http://www.emtrain.eu/index.php/component/contact/contact/1-dr-mike-hardman>

Chair of the workshop B

The importance for the PhD and Postdoc phase on the future career?

Harris, Robert A. - PhD, Prof.

ORPHEUS President

Director of Doctoral Education at the Karolinska Institutet - Department of Clinical Neuroscience

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Guest speaker

Session V: Impact of innovations within doctoral education

Chair of the workshop C: Professionalization of PhD supervision

Hommers, Leif - Dr. med. Dr. rer. nat.

Center of Mental Health, Department of Psychiatry, Psychosomatics and Psychotherapy, University

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www.ppp.ukw.de/de/forschung/forschungsschwerpunkte/gemeinsame-molekulare-mechanismen-von-neuropsychiatrischen-und-kardiovaskulaeren-erkrankungen.html

Guest speaker (short presentation)

Workshop A - MD-PhD programs in Europe

Janko, Christa - Mag.

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Chair of the workshop B

The importance for the PhD and Postdoc phase on the future career?

Jonsson, Roland - DMD, PhD, Prof.

ORPHEUS Executive Committee Member

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Guest speaker

Session II: Perspectives for physician scientists of the 21st Century

Debate: Do we need clinical PhD programs? Pros and cons for the career as physician scientist

Justement, Louis B - PhD, Prof.

Director - GBS Immunology Graduate Theme

Associate Director of the Medical Scientist Training Program

Department of Microbiology - University of Alabama - Birmingham, USA

FASEB Science Policy Committee Member

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Guest speaker

Session II: Perspectives for physician scientists in the 21st Century

Kulasegaram, Kulamakan M - PhD, Prof.

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University of Toronto and The Wilson Centre - Toronto, Canada

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Guest Speaker

Session I: Research training for medical and natural science undergraduates in biomedicine and health science

Kroeger, Edwin A - PhD, Prof.

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Chair of the workshop C

Professionalization of PhD supervision

Lackovic, Zdravko - MD, PhD, Prof.

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Chair of the workshop A

MD-PhD programs in Europe

Lalic, Nebojsa - Prof. Dr.

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Prof. of Internal Medicine - Faculty of Medicine - University of Belgrade

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Guest speaker

Session II: Perspectives for physician scientists in the 21st Century

Debate: Do we need clinical PhD programs? Pros and cons for the career as physician scientist

Manchanda, Kashish - M.Sc., PhD Student

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Chair of the ORPHEUS Students Workshop

The role of the student-representation in the establishment and operation of doctoral programs

Moritz, Sören - PhD

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Guest Speaker

Session I: Research training for medical and natural science undergraduates in biomedicine and health science

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Honorary guest speaker of the ORPHEUS-Lecture 2016

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Guest speaker - ORPHEUS Students Workshop

The role of the student-representation in the establishment and operation of doctoral programs

Oestmann, Jörg-Wilhelm - Prof. Dr.

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http://radiologie.charite.de/index.toppage/coworker.action/open_coworker.oid/367057.html

Guest speaker

Session IV: Graduate programs for clinicians in biomedicine and health sciences

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Guest Speaker:

Session I: Research training for medical and natural science undergraduates in biomedicine and health science

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Guest speaker - ORPHEUS Students Workshop

The role of the student-representation in the establishment and operation of doctoral programs

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Guest Speaker - ORPHEUS Students Workshop

The role of the student-representation in the establishment and operation of doctoral programs

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Guest speaker (short presentation)**Workshop A - MD-PhD programs in Europe**

Suput, Dusan - MD Prof.**General Secretary - The Association of Medical Schools in Europe (AMSE),**

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Guest speaker**Session II: Perspectives for physician scientists of the 21st Century**

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Guest speaker**Session II: Perspectives for physician scientists of the 21st Century**

Editor

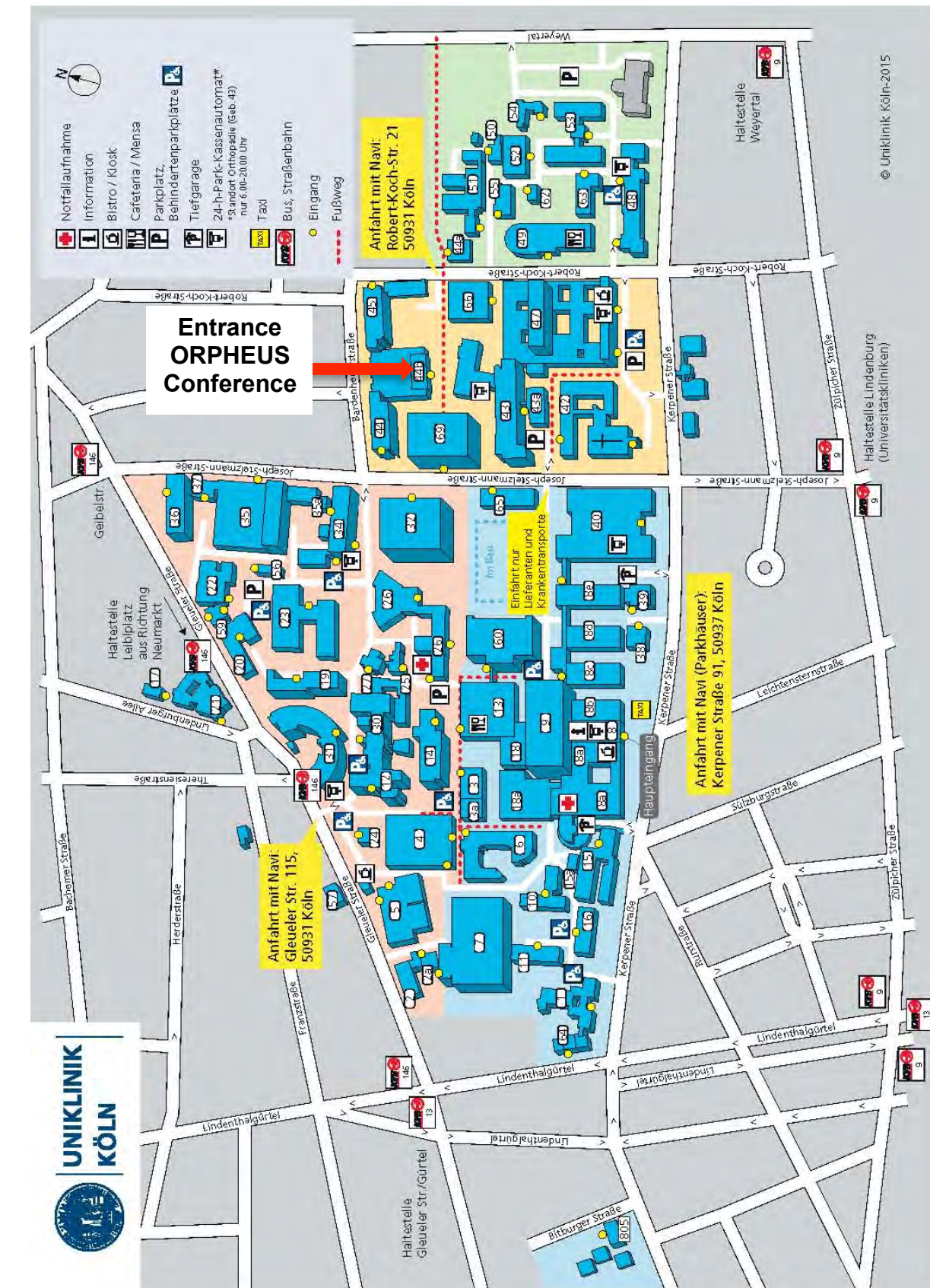
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Dorothea Hensen (MedizinFotoKöln, Medical Faculty, Univ. of Cologne) - front cover, pp 5 and pp 7
Lars Rubert (University of Cologne) - cover inside

Site map - Medical Campus



11th ORPHEUS Conference

Lost in translation? From medical studies from clinical research.

March 10th – 12th, 2016

Thursday – March 10th, 2016

Venue	MTI Lecture Hall of the Centers for Biochemistry and Physiology, Medical Faculty - Univ. of Cologne Entrance: the <i>Studentenweg</i> connecting the Robert-Koch-Str. and the Joseph-Stelzmann-Str.
1.30 - 1.45 p.m.	Start of the ORPHEUS Conference - Welcome Address
1.45 - 2.20 p.m.	The ORPHEUS mission - aims and challenges - Robert Harris
Session I	Research training for medical and natural science undergraduates in biomedicine and health science
2.20 - 2.55 p.m.	Wojciech Pawlina
2.55 - 3.20 p.m.	Coffee Break
3.20 - 4.30 p.m.	Mahan Kulasegaram - Sören Moritz
4.30 - 5.00 p.m.	Coffee Break
5.00 - 6.00 p.m.	ORPHEUS Lecture - Carla Nau
6.00 - 9.00 p.m.	Poster Session and Welcome-Get-Together

Friday – March 11th, 2016

Session II	Perspectives for physician scientists in the 21 st Century
9.00 - 10.10 a.m.	Fran Borovecki - Ivan Vyshnyvetskyy
10.10 - 10.40 a.m.	Coffee Break
10.40 - 12.00 a.m.	Louis B Justement - Debate: Roland Jonsson and Nebojsa Lalic
12.00 - 1.20 p.m.	Lunch Break – for all participants at the venue
Session III	Four parallel workshops
1.20 - 3.30 p.m.	Workshop A: Z Lackovic / J Barnett Workshop B: M Hardman / C Janko / T Hucho Workshop C: R Harris / E Kroeger Workshop D: K Manchanda / V Coric
3.30 - 3.45 p.m.	Coffee Break
Session IV	Graduate programs for clinicians in biomedicine and health sciences
3.45 - 4.55 p.m.	Thomas Berger - Zühal Bahar
4.55 - 5.15 p.m.	Coffee Break
5.15 - 6.25 p.m.	Michael Fored - Jörg-Wilhelm Oestmann
6.25 - 6.30 p.m.	Announcement of the three poster awardees
6.30 - 7.00 p.m.	Reception with Live Music - Max Lehman (classical guitar music)
7.00 p.m.	ORPHEUS Conference Dinner at the venue

Saturday – March 12th, 2016

Session V	Impact of innovations within doctoral and postdoctoral education
9.00 - 10.10 a.m.	Robert A Harris - Dusan Suput
10.10 - 10.25 a.m.	Coffee Break
10.25 - 11.35 a.m.	Joey V Barnett - Gül Güner Akdogan
11.25 - 12.00 p.m.	Short presentation of the three poster awardees (3 x 8 min. short talk)
12.00 - 12.45 p.m.	Lunch Break – for all participants at the venue
12.45 - 1.30 p.m.	Outcome of the workshops and summary
1.30 - 1.45 p.m.	Concluding remarks and flag ceremony
1.45 - 2.45 p.m.	General ORPHEUS Assembly