MARDS

REFORMING DOCTORAL STUDIES IN MONTENEGRO AND ALBANIA – GOOD PRACTICE PARADIGM

Grant: 598465-EPP-1-2018-1-ME-EPPKA2-CBHE-SP

Erasmus+ CBHE Field Monitoring Visit

University of Montenegro, 23.03.2023







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Summary on achievements

Prof. dr Radovan Stojanović







Project overview

15 Partners

- EU (5): University of Vienna, University of Zagreb, University of Maribor, University of Banska Bistrica, Association of professionals in doctoral education.
- ME (5): University of Montenegro, University of Donja Gorica,
 Ministry of education of Montenegro, Ministry of Science of
 Montenegro, Montenegrin Chamber of Commerce,
- AL(6): University of Schroder "Luigj Gurakuqi", Technical University of Tirana, Vlore University, University Metropoliten Tirana, Ministry of sport and education of Albania.
- <u>Coordinator:</u> University of Montenegro
- <u>EU garnt (all partners)</u>: **868.120 EUR, UCG 201.740 EUR (23.2%),** Staff: 61,460.00, Travel: 17,770.00, Stay: 34,560.00, Equ: 57,950.00, Sub: 34,000.00
- <u>Duration:</u> 4 years, NOV 15 2018- NOV 14 2022





General objectives

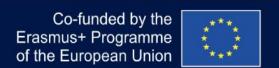
- To reconstruct Albanian and Montenegrin systems of doctoral education in line with Salzburg Principles
- 2. to establish sustainable and modern Pilot Joint Doctoral Schools between two friendly neighbours partner countries that will serve as an example of "good practice" for the WB Region.





Specific objectives

- 1. <u>to reconsider</u> the existing national policies/standards for doctoral studies in two countries and their compatibility with EU practices.
- 2. <u>to develop and propose</u> a new model of doctoral studies in two countries, adapted to the acquired experiences over past decades and current and future countries' needs.
- 3. <u>to propose a sustainable method</u> of financing doctoral studies in two countries on national levels.
- 4. to establish two Joint Doctoral Schools
 - "Natural sciences and Technology for Sustainable Development" with place in Montenegro (Podgorica)
 - "Economy and Tourism for Sustainable Development" with place in Albania (Shkoder) as the recommendable examples of cross-border PhD programmes.
- 5. <u>to establish a sustainable cooperation</u> with EU partners and established Doctoral School in order to maintain developed standards.





Specific outcomes

- 1. Report on existed doctoral education in Montenegro and Albania with Action plans.
- 2. <u>Proposal of basic legal documents</u> including the model of funding doctoral studies in Montenegro and Albania.
- Conference on PhD education in Montenegro and Albania.
- 4. <u>Guidelines and recommendations</u> for WB academics and professionals in Doc. studies.
- Training staff and support.
- 6. Providing infrastructural and human resources
- 7. Accredited Joint Pilot Doctoral School: "Natural sciences and Technology for Sustainable Development" with place in Montenegro, Podgorica, www.mards.ucg.ac.me





Specific outcomes

- 8. <u>Accredited Joint Pilot Doctoral School:</u> "Economy and Tourism for Sustainable Development" with place in Albania, Shkoder.
 - **₹**
- 9. The First Scholarships for doctoral studies in two countries based on recommended funding model (if allowed by policy makers)
- 10. MARDS Doctoral Colloquium of first PhD generation enrolled under title "Science, Technology and Services for Sustainable development",
- 11. Providided model of cooperation academia nonacademia in term of MARDS
- 12. Providing sustainability of the achieved results

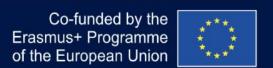






What we are proud of?

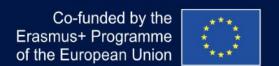
- We change the system of PhD studies in Montenegro (modern approach, lower fees, intensive work, motivated candidates and teachers, mobility, research, publications, the tuition fee for doctoral studies has been reduced to symbolic 0€-€250- €750 per semester.). In addition, the MARDS project contributed to the improvement of other policies and measures in doctoral education in Montenegro, e.g. at the University of Montenegro.
- We developed, accredited, licensed and start up the first international multidisciplinary PhD programme "Sustainable Development" in Montenegro, https://www.mards.ucg.ac.me/PhD/
- We developed, accreditated and start up the First International multidisciplinary PhD programme "Economy and Tourism in Sustainable Development" in Albania,
- We enrolled 2 generations of the students in Montenegro and one in Albania. The first generation students made great progress The MARDS program attracted most of the students enrolled in Ph.D. studies (16 studies programs) at the University of Montenegro in the 2021/2022 academic year. As many as 15 students out of a total of 93 are enrolled in this program (16%.). At the end of the academic year, all enrolled students mastered the defined curriculum with more than 75 % of success. All of them defended their colloquium works within Doctoral Symposium. The students were very proactive in mobility, their research stays at a partner institution, and 83% spent that stay, mainly at the University of Maribor.





What we are proud of?

- The MARDS is a "de facto and de jure" international program. It originated from an international project, conducted in English by international institutions and professors, including international students. Circa 36 % of the enrolled students of the first generation completed their previous level of education at one of the foreign universities. This percent in 2nd generation goes to 90%. Some of them returned to Montenegro to continue their studies and professional development. About 50% of professors and supervisors were from foreign universities. About 40% of all authors, at Symposium, were out of Montenegro. The Program offers opportunities for the scientific diaspora of Montenegro and the wider Western Balkan.
- We have established traditional Colloquium for Doctoral Students, the first in history of WB DS, <u>www.doc-me.com</u>.
- We have become an good example in the Region on modern DS.







"Sustainable development" PhD Structure

1 (one), obligatory
course
10ECTS
2 (two) elective
courses from
candidate field of
interest
20 ECTS

1 (one) elective multidisciplinary (elective multi) course 5 ECTS Initial research 20 ECTS Doctoral Colloquium 5 ECTS

Work on thesis 80 ECTS Research stay aboard, min 1 month 10 ECTS

Preparation and defense of Dissertation

30 ECTS

30 ECTS

90 ECTS

30 ECTS

1st year 2nd and 3rd year

The differences to standard PhD programme at University of Montenegro

Erasmus+ Programme of the European Union

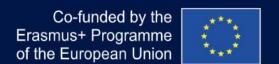
....w.mards.ucg.ac.me





Eligibility

- MSc students obtained 300 ECTS in one of the following profiles:
 - 1. All technical sciences
 - 2. Biotechnical/technology sciences
 - 3. Natural sciences and mathematics
 - Multidisciplinary sciences compatible with programme
 - 5. Biomedical engineering
 - 6. Medicine and related sciences





Spisak predmeta - doktorske studije "Održivi razvoj" (MARDS, UCG) The list of the courses - PhD studies "Sustainable Development" (MARDS, UCG=University of Montenegro)

#	Predmet (MNE)	Course(ENG)	Predavač/Teacher	ECTS	Status	Nosilac Institution
1	Metodologija naučno-istraživačkog rada	Methodology of science and research work	Prof. dr Veljko Milutinović	10		Indiana University Bloomington
2	Daljinsko istraživanje	Remote sensing	Prof. dr Dušan Gleich	10	izborni elective	Univ. Maribor
3	Upravljanje i zaštita elektroenergetskih sistema	Power system control and protection	Prof. dr Boštjan Polajžer	10	izborni elective	Univ. Maribor
4	Komunikacija čovjek-računar u medijima	Human-computer interaction in the media	Prof. dr Matjaž Debevc	10	izborni elective	Univ. Maribor
5	Intelegentna obrada podataka	Intelligent data analysis	Prof. dr Iztok Fister	10	izborni elective	Univ. Maribor
6	Distributivni sistemi za smještanje podataka	Distributed data storage systems	Prof. dr Aida Kamišalić Latifić	10	izborni elective	Univ. Maribor
7	Pretraživanje nestrukturisanih podataka	Mining unstructured data and natural language processing	Prof. dr Sašo Karakatič	10	izborni elective	Univ. Maribor



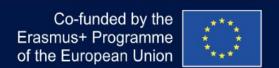


8 Savremeni građevinski materijali	Contemporary building materials	Prof. dr Radomir Zejak	10	izborni elective	GF UCG
9 Eksperimentalna analiza konstrukcija	Experimental analysis of structures	Prof. dr Biljana Šćepanović	10	izborni elective	GF UCG
10 Upravljanje rizikom u građevinarstvu	Risk management in civil engineering	Prof. dr Miloš Knežević	10	izborni elective	GF UCG
11 Energetska efikasnost zgrada	Energy efficiency of buildings	Prof. dr Radmila Sinđić Grebović	10	izborni elective	GF UCG
12 Izabrana poglavlja iz električnih mašina	Selected topics in electrical machines	Prof. dr Gojko Joksimović	10	izborni elective	ETF UCG
13 IoT ekosistemi	IoT ecosystems	Prof. dr Radovan Stojanović	10	izborni elective	ETF UCG
14 Eksergetske analize u HVAC instalacijama	Power analyses in HVAC systems	Prof. dr Igor Vušanović	10	izborni elective	MF UCG
15 Kompleksi metala i njihova primjena	Metal complexes and their application	Prof. dr Željko Jaćimović, Prof. dr Nedeljko Latinović	10	izborni elective	MTF UCG i BTF UCG





16 Hemija životne sredine	Environmental chemistry	Prof. dr Željko Jaćimović, Doc. dr Miljan Bigović	10	izborni elective	PMF UCG
17 Ekologija i životna sredina	Ecology and enviroment	Prof. dr Marijana Krivokapić	10	izborni elective	PMF UCG
18 Ekologija i biodiverzitet akvatičnih sredina	Ecology and biodiversity of aquatic ecosystems	Prof. dr Marijana Krivokapić	10	izborni elective	PMF UCG
Biološki procesi u životnoj sredini - odabrana poglavlja	Biological processes in the environment - selected chapters	Prof. dr Jelena Rakočević	10	izborni elective	PMF UCG
20 Precizna poljoprivreda	Precision agriculture	Prof. dr Radovan Stojanović, Prof. dr Nedeljko Latinović	10	izborni elective	ETF UCG i BTF UCG
21 Brodska alternativna goriva i pogoni	Ships' alternative fuels and propulsion	Prof. dr Danilo Nikolić	10	izborni elective	PF UCG
22 Održavanje zasnovano na pouzdanosti	Reliability-based maintenance	Prof. dr Špiro Ivošević	10	izborni elective	PF UCG
Modeliranje u Supply Chain Management- u	Modeling the supply chain	Prof. dr Branislav Dragović	10	izborni elective	PF UCG





24 Kontinuiteti u građenju grada	Continuities in the city building	Doc. dr Vladimir Bojković	10	izborni elective	AF UCG
25 Energetska i ekološka rehabilitacija zgrada	Energy and environmental refurbishment of buildings	Prof. dr Dušan Vuksanović	10	izborni elective	AF UCG
26 Dizajn i priroda	Design and nature	Prof. dr Slavica Stamatović Vučković	10	izborni elective	AF UCG
27 Naučna komunikacija i pisanje	Science communication and writing	Doc. dr Nela Milošević	5	izborni elective	Univeristy Donja Gorica
28 Napredno preduzetništvo	Advanced entrepreneurship	Prof. dr Dijana Kovačević	5	izborni elective	University Donja Gorica
29 Tehnološko preduzetništvo	Technological entrepreneurship	Prof. dr Radovan Stojanović	5	izborni elective	ETF UCG











"Sustainable Development" at the University of Montenegro





David Kočović

Master of Science – Food Technology and Proccesing Head of Laboratory at "Institute for medicines and medical devices of Montenegro"



Advisor at Environmental Protection Agency Montenegro











Students of the **2nd generation** of international doctoral studies "Sustainable Development" at the University of Montenegro

Students of the 2nd generation of international doctoral studies "Sustainable Development" at th University of Montenegro











Selma Sellaku Anja Babić



Dragana Nikčević Pantović



Branislav Proročić

Azra Vuković

Students of the 2nd generation of international doctoral studies "Sustainable Development" at th University of Montenegro











Maja Božović



<u>Željko Kalezić</u>



Dejan Zejak



Nikola Bajović































































David Kočović



MARDS

REFORMING PHD STUDIES

ON AIR 🔾







Product is only successful if it turns into an experience.
 Functionality and utability are not enough for users anymore.

Functionality and usability are not enough for users anymore.
 For having experiences humans are using their natural tools

 To design positive product experiences we can use Emoti design process which results in adding additional meaning

affect attention, memory, engagement etc. +

The problem is that currently Emotional design is being used to





















































society



















managment













Conclusion

- it was not an easy job.
- we succeeded.
- we will maintain and improve achievements.
- where we failed, we will always do it again.
- because the green reforms and new ideas never end.
- For more info:
- https://www.mards.ucg.ac.me/workflow.html
- https://www.mards. ____ me/PhD/





