CALLME
e-platform ♦ innovation ♦ medical engineering

Co-funded by the Erasmus+ Programme of the European Union

CALLME

EC Project Number: 2022-1-RO01-KA220-HED-000087703

Project title:

Collaborative e-platform for innovation and educational enhancement in medical engineering

REPORT

Project Title	**Collaborative e-platform for innovation and educational enhancement in medical engineering**
Report	**Teaching activity: C1 course – Personalized bone implants design and manufacturing**
Date of Delivery	**October 2024**
Authors	**Velibor Isailovic**
Version	**V1**

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1. *CALLME Project Overview*

The CALLME project aims to implement a New Educational Methodology (NEM) rooted in STEM (Science, Technology, Engineering, and Mathematics) principles, based on molecular (atomic) learning within existing educational frameworks in medical engineering. This innovative approach seeks to enhance several academic curricula and courses, which will be delivered as key project outputs.

A central outcome of the project will be the development of an open e-platform, E-COOL (Smart Content Management System), designed to facilitate collaboration and knowledge exchange. This platform will support the application of NEM through a molecular network structure of interconnected elements representing the "triangle of knowledge"—business, innovation, and higher education institutions. The platform will contribute to improving existing curricula and creating new educational programs at higher education institutions.

Objectives of the CALLME Project:

1. Formation of a Medical Engineering and Education Network:

   Establish a collaborative network enabling knowledge exchange and cooperation among higher education institutions, businesses, and state organizations.

2. Application of NEM and STEM Principles:

   Integrate the New Educational Methodology (NEM) and STEM-based learning principles into existing teaching materials. This will lay the foundation for developing future higher education and industry-specific curricula.

3. Development of E-COOL Platform:

   Create a web-based platform (E-COOL Smart Content Management System) to integrate the established network and enable course development based on the NEM and STEM approach.

4. Promotion and Sustainability:

   Enhance the visibility and adoption of the network and NEM approach by leveraging the E-COOL platform and other project resources to ensure long-term sustainability.

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Project Consortium Members are:

- Technical University of Cluj-Napoca, Romania (Coordinator)
- University of Nis, Serbia
- Technical University of Riga, Latvia
- University of Dublin, Ireland
- University of Kragujevac, Serbia
- G.M Eurocy Innovations LTD, Cyprus

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2. *Summary of the teaching event*

The Faculty of Engineering at the University of Kragujevac offers a Bachelor's program in Computer Technique and Software Engineering, accredited within the electrical engineering discipline. This program consistently attracts academically distinguished students with a strong background in STEM subjects, positioning them as ideal candidates for interdisciplinary graduate studies.

Given the program's focus on computational methods, algorithm development, and software design, its graduates possess technical competencies highly relevant to bioengineering research areas such as biomedical data analysis, bioinformatics, and medical device development. This prospective talent pool significantly contributes to the recruitment base for the university's advanced master's and doctoral programs in bioengineering.

Recognizing this potential, the study group was strategically selected for disseminating the research outcomes of the CALLME project. By engaging these students, the project aims to cultivate a new generation of biomedical engineers equipped with cutting-edge technical skills and a deep understanding of interdisciplinary scientific research.

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3. *Attendance*

A specialized teaching session was conducted at the Faculty of Engineering Sciences with students from the Department of Computer Technique and Software Engineering. The session focused on demonstrating the application of advanced engineering methods, techniques, and tools within the field of biomedicine. This approach provided students with an opportunity to gain an initial understanding of the interdisciplinary domain of biomedical engineering, emphasizing its relevance and potential applications in healthcare technology and medical research.

It became evident during the session that the students' prior knowledge of biomedical engineering was limited. However, their high level of interest and engagement throughout the lecture highlighted their readiness to explore the subject further. Their active participation during the session, followed by numerous registrations on the project platform, indicates that the project is already achieving one of its broader goals: fostering a dynamic knowledge-sharing network among industry partners, healthcare institutions, and higher education establishments.

This growing interdisciplinary network is expected to facilitate collaborative research, enhance educational experiences, and promote innovation by bridging the gap between academic research, clinical practice, and industrial development.

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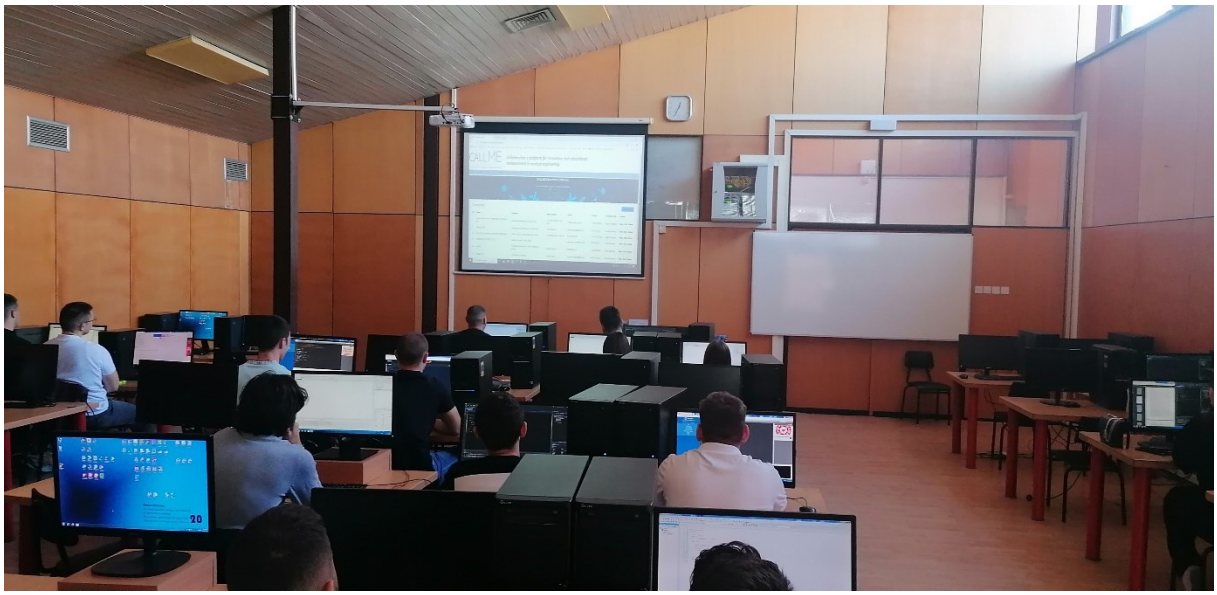

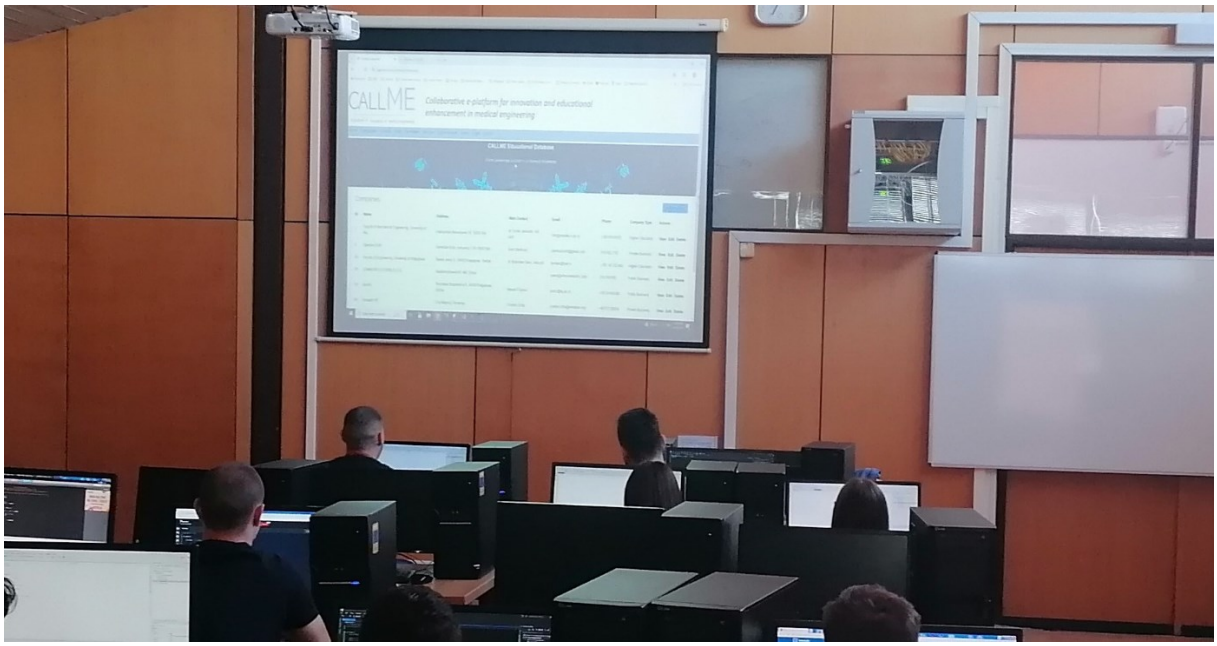

Below is a list of students who attended the session where the C1 course – Personalized bone implants design and manufacturing, that was created as a result of the project, is presented.

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Erasmus+ Programme – Cooperation partnerships
Project No.: 2022-1-RO01-KA220-HED-000087703
Title of the activity: Training
Starting date: 15.10.2024.
End date: 15.10.2024.
Place: Faculty of Engineering, University of Kragujevac

ATTENDANCE LIST
Teaching activity

No.	Participant name	Sending organization name	Sending organization address (city, country)	Participant signature
1.	Војин Пиндровић	УК	Крагујевац, Србија	Војин Пиндровић
2.	Немања	УК	Крагујевац, Србија	Н. С
3.	Јана Зрнић	УК	Крагујевац, Србија	Јана Зрнић
4.	Обрен Милићевић	УК	Крагујевац, Србија	Обрен Милићевић
5.	Кристина Тимић	УК	Крагујевац, Србија	Кристина Тимић
6.	Маја Весовић	УК	Крагујевац, Србија	Маја Весовић
7.	Петар, председник	УК	Крагујевац, Србија	Петар
8.	Владимир Ђорђевић	УК	Крагујевац, Србија	Владимир Ђорђевић
9.	Борис Лачић	УК	Крагујевац, Србија	Борис Лачић
10.	Немања Јанић	УК	Крагујевац, Србија	Немања Јанић
11.	Јован Младеновић	УК	Крагујевац, Србија	Јован
12.	Јован Костић	УК	Крагујевац, Србија	Јован Костић
13.	Стефан Цветковић	УК	Крагујевац, Србија	Стефан Цветковић
14.	Новак Пајовић	УК	Крагујевац, Србија	Новак Пајовић
15.	Јован Вучковић	УК	Крагујевац, Србија	Јован
16.	Зоран Јовановић	УК	Крагујевац, Србија	Зоран Јовановић
17.	Михајло Ђорђевић	УК	Крагујевац, Србија	Михајло Ђорђевић
18.	Марија Кнудић	УК	Крагујевац, Србија	Марија
19.	Наталија Марковић	УК	Крагујевац, Србија	Марковић
20.	Никола Радојевић	УК	Крагујевац, Србија	Радојевић

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21.	Алекса Стојановић	UK	Крагујевац, Србија	Алекса С
22.	Кристина Лукић	UK	Крагујевац, Србија	Кристина Лукић
23.	Здравић Александра	UK	Крагујевац, Србија	Здравић Александра
24.	Милица Николић	UK	Крагујевац, Србија	Милица Николић
25.	Александар Соколовић	UK	Крагујевац, Србија	Александар Соколовић
26.	Милош Дакић	UK	Крагујевац, Србија	Милош Дакић

All personal data provided for registration for this event is collected during the implementation of the Erasmus+ Programme according to the regulations of the European Commission. They will be stored and processed by Velibor Isailovic in accordance with the provisions of Regulation (EU) 2018/1725 of the European Parliament and of the Council of 22 October 2018 on the protection of individuals with regard to the processing of personal data and on the free movement of such data. During the event, photos/ screenshots and/ or video recordings will be taken for use by the Velibor Isailovic for purposes related to the promotion and dissemination of results from projects funded by the Erasmus+ Programme. The materials will not affect your personal or institutional image. By registering for this event, you give your consent to be filmed and/ or photographed for the reasons mentioned above.

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4. Conclusion

As outlined in previous sections, the primary objective of the CALLME project is the integration of a New Educational Methodology (NEM) grounded in STEM (Science, Technology, Engineering, and Mathematics) principles, based on molecular (atomic) learning, into existing educational processes in biomedical engineering. This approach aims to enhance interdisciplinary education, foster innovation, and strengthen the knowledge base in biomedical engineering.

Based on active participation during the teaching sessions and subsequent registrations on the project's online platform, it is evident that the project is already fulfilling its primary objective. A knowledge-sharing network has begun to take shape, connecting university professors, industry professionals, clinical experts, and students interested or actively engaged in the biomedical engineering field.

This emerging network is expected to play a pivotal role in advancing collaborative research, facilitating the exchange of expertise, and supporting the development of cutting-edge educational programs tailored to the evolving demands of the biomedical engineering sector.

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