

















NEWSLETTER

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MathICs e-NEWSLETTER #6

CONTENT:

1.	News about MathICs project
	Management: Consortium Meeting
3.	Follow up of WP5: Mentoring sessions preparation
4.	Follow up of MathICs caravan
	Dissemination events
6.	MathICs Club
7.	Upcoming events

























News from MathICs project

MathICs project at the end of 2023, reached a consensus to formally request an extension of the MathICs project from the European Union. Different delays fundamentally derived with the COVID have motivated the extension. Subsequently, the European Union approved the extension, recognizing the importance of addressing these issues.

In 2024, the MathICs team reschedule the Caravan, a crucial component of MathICs' dissemination strategy. The Caravan serves a dual purpose: firstly, it facilitates the sharing of MathICs' expertise in integrating ICT into mathematics education; secondly, it raises awareness of the educational applications of ICT in Morocco.

During recent months, professors in Morocco have been instrumental in developing a new deliverable for the project known as the Mathics Club. This initiative, although not originally included in the project proposal, aims to foster a sense of ownership and engagement with MathICs among students at each university. Through the Mathics Club, students will directly benefit from the project's objectives, enhancing their learning experiences and promoting the project's overall impact.

2. Management: Consortium Meeting

The 5th MathICs Consortium meeting was in November 2023 at the Université Cadi Ayyad. This gathering brings together educators, students, and stakeholders from the Marrakech region to discuss and showcase the profound impact of the MathICs project on mathematics education in Morocco.

Through collaborative efforts and innovative strategies, MathICs aims to enhance the teaching and learning of mathematics by leveraging the potential of information and communication technologies (ICTs). This meeting serves as a platform to exchange ideas, share best practices, and foster partnerships to further elevate the standards of mathematics education in Marrakech and beyond.

This consortium meeting marked an important occasion as we engage with mathematics professors and students from the region to introduce the MathICs project and highlight its transformative effects on the educational landscape of Morocco. By providing access to advanced teaching methodologies and technological tools, MathICs empowers educators to deliver engaging and interactive mathematics instruction. Through interactive sessions and presentations, we aim to inspire a new wave of enthusiasm and dedication towards mathematics education, ultimately paving the way for a brighter future for students across Marrakech.































3. Follow up of WP5: preparation of Mentoring Sessions

Following the distribution of the latest newsletter, Moroccan PhD Students actively participated in the application phase of the training sessions.

4. Follow up of MathlCs Caravan

























The MathICS project caravan continues its outreach efforts in high schools and universities to promote mathematics education. MathICS: Strengthening Mathematics Education by the Use of ICTs in Morocco is an Erasmus+ capacity-building project financed under the 2020 call. It is a national initiative aimed at enhancing mathematics education in Morocco through the utilization of information and communication technologies (ICTs) to support the modernization, accessibility, and internationalization of higher education in the country.

Entering its final year of implementation (with an extension), the project has achieved specific outcomes:

- Four training sessions on the use of ICTs in mathematics education were conducted in Europe for Moroccan teachers, doctoral candidates, and technical staff.
- This initial training phase, designed as a train-the-trainer program, included visits to ICT development and teaching facilities, benefitting 36 individuals.
- In the second phase, the same instructors from the first phase, with the help of some of the trained instructors, conducted the same four training sessions at partner Moroccan institutions, benefiting approximately 150 participants.
- Another MathICS activity is planned in April 2024 in Lisbon, benefiting Moroccan trainers involved in the second training phase. This quality-oriented step will facilitate project review, identify challenges, and propose improvements.
- Hybrid (ICT, e-learning) and Media (digital content creation) rooms have been established and equipped at partner institutions.
- The MathICS project is currently in the phase of applying its results, benefiting from an additional year for course development. Institutions have produced approximately 30 mathematics course videos, quizzes, and asynchronous course sessions.
- Several math course videos have been recorded and shared, with more in progress.
- Multiple quizzes have been developed and tested.
- Over 20 asynchronous course sessions are in development.

The caravan is composed of two types of events distinguished according to the event's location and its target group in the following way.

First types of MathICs Caravan:

- Locations: Middle and high schools
- Target group: Teachers and students.

For middle and high schools, two types of activities are planned, each of which will take place in the different schools that have been selected and are specified in the table included below.

The Caravan returned in the beginning of March 2024 and made a stop at the Moulay Ismaïl High School in Meknes to share the MathICs project experience and conduct a workshop on the utilization of GeoGebra.

Additionally, a small mathematical contest for first-year Baccalaureate students was organized. We extend our gratitude to all participants and express our appreciation to the mathematics team for their dedication and effort in preparing the event. Next stop: Faculty of Sciences, El Jadida.



















































The caravan will continue until November 2024, with additional cities such as El Jadida, Settat, Khémissat, Beni Mellal, Larache, among others.





















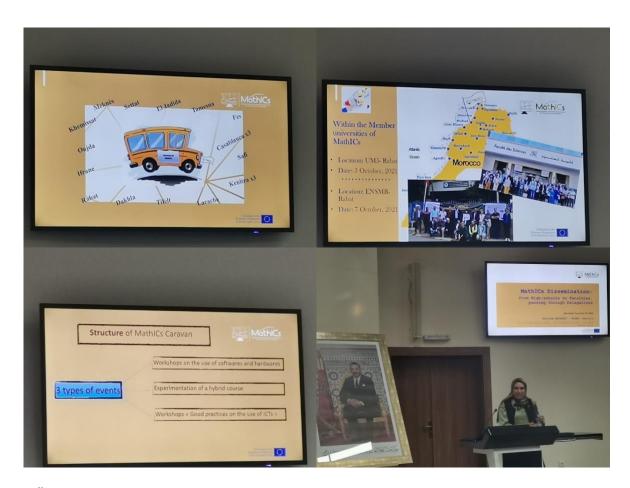


5. Dissemination events

Within the scope of the consortium meeting, a dissemination event took place in Marrakech in November 2023. This event featured presentations showcasing the key outcomes derived from the Mathics Caravan experience across various schools. Additionally, stakeholders visited and benefited from this visit also delivered presentations during the event.

The experience of the Mathics Caravan holds significant importance for younger high school students as it provides them with a unique opportunity to engage with mathematics education in a dynamic and interactive manner. By participating in workshops, contests, and presentations organized by the Caravan, these students gain exposure to innovative teaching methods and technological tools, fostering a deeper understanding and appreciation for mathematics. Moreover, interactions with visiting stakeholders allow students to witness firsthand the practical applications of mathematics in various fields, inspiring them to explore potential career paths and academic pursuits related to STEM disciplines.

Furthermore, the Mathics Caravan experience plays a crucial role in motivating and empowering young high school students to pursue excellence in mathematics. Through hands-on activities and collaborative learning environments facilitated by the Caravan, students are encouraged to develop critical thinking skills, problem-solving abilities, and creativity. These foundational skills not only enhance their academic performance but also equip them with essential tools for success in higher education and beyond. By igniting a passion for mathematics and instilling confidence in their abilities, the Mathics Caravan empowers the next generation of students to unlock their full potential and make meaningful contributions to society.



























Some MathICs Team members have shared mathematics achievements and activities in events where they were participating.

December, 2023, we are delighted to share with you a recent presentation made by Natacha Moniz (IST/ULisboa), a member of our dissemination committee at the 3rd International Congress on Scientific Advances (ICONSAD'23). The presentation, titled "Bridging Communication Gaps for International Projects between European and Moroccan Universities," explores effective communication strategies for internationalization projects between European and Moroccan universities. This exploratory research paper delves into the importance of establishing community links with partners, selecting appropriate communication channels, and building intercultural awareness to overcome language and cultural barriers. Drawing on a case study of a Capacity Building for Higher Education project under Information and Communication Technologies in Mathematics, funded by the European Union, the presentation discusses various communication strategies employed and the dissemination challenges faced during implementation. We encourage you to explore the full paper available at the ICONSAD'23 conference website (ISBN 978-625-94317-0-3, pp. 233-236) to gain further insights into effective communication strategies for international projects between European and Moroccan universities.



The Mathics team proudly announces that Professor Hanaa Hachimi has been appointed as the new editor of the International Journal on Optimization and Applications, a publication indexed on the EBSCO database. This achievement reflects the dedication and expertise of our team members in contributing to the academic community and advancing the field of optimization and applications. We extend our heartfelt congratulations to Professor Hachimi on this well-deserved appointment and look forward to further collaboration and success in the future.























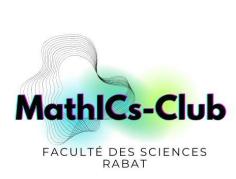


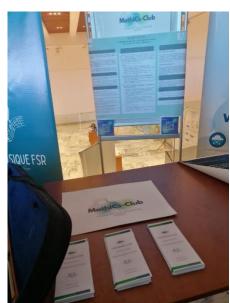


6. MathICs Club

We are delighted to welcome to the MathICs-FSR Club, an initiative inspired by the successful activities of the MathICs project (CBHE Erasmus), that began in 2024.

The MathICs Club at the Faculty of Sciences in Rabat (FSR) aims to provide a dynamic space where students can explore, learn, and apply the latest advancements in Information and Communication Technologies in Mathematics Education (ICTe). We firmly believe that the integration of ICT enriches the educational experience by preparing students to meet the challenges of the modern world.





Under the mentorship of Professor Driss Bennis, the club is committed to sharing extensive knowledge and expertise to guide members toward a creative and strategic use of ICT. The Club aspiration is to create synergy between formal learning and practical projects, thereby strengthening our commitment to academic excellence and innovation.

The objectives of the MathICs club include:

- ICT Training: Practical workshops to integrate ICT into mathematics learning.
- Exploration and Utilization: Discovering the potential of ICT to enhance understanding of mathematical concepts.
- Development and Popularization: Exploring new mathematical approaches made possible by ICT.
- We invite you to explore this site to learn more about the MathICs Club, its upcoming activities, and opportunities for participation. Membership in our club offers a unique opportunity to engage in stimulating projects and contribute to a community focused on exploration and creativity in the field of ICT.

The annual program of the MathICs club unfolds in three distinct phases: "Training, Exploration, and Production," preceded by a period dedicated to preparation and organization. Each phase contributes significantly to the exploration and enhancement of the integration of Information and Communication Technologies for Education (ICTe) in the field of mathematics.



















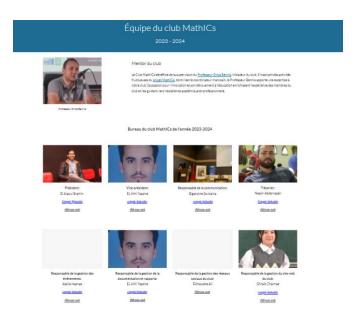








The MathICs Team is immensely proud of the students and teachers who conceived and implemented this idea. We believe that the establishment of the club marks the beginning of a new era of ICT Mathematics in Moroccan universities.



7. Upcoming Events

- Next Project meetings
 - 22-24 April: WP5, QC and DC meeting in IST, Lisbon (Portugal)
- **Next Dissemination Events:**
 - Dissemination event at UM5 & ENSMR: September 2024.
 - Dissemination event at USMS: October 2024.
 - Dissemination event at UIT: November 2024.

























Next MathICs Caravan Events:

The MathICs caravan program for this academic year has been rescheduled due to various reasons. The updated proposal is outlined as follows:

