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# How Erasmus+ Project Math&Languages changed my life



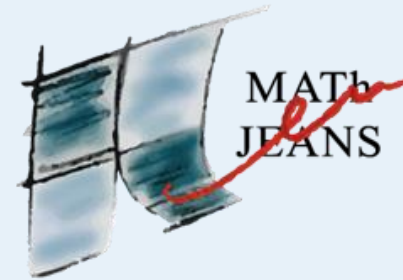
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# Short description of the Math&Languages project



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The Math&Languages project, financed by EU and coordinated by the MATH.en.JEANS association (France), aims to create a community of “young student researchers” by organizing research workshops, where students meet regularly and try to solve together complex problems, proposed by mathematicians, thus discovering a new engaging perspective on mathematics and familiarizing with new mathematical concepts, with the help of their teachers and university researchers.





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This project has 11 partners from France, Belgium, Romania, Poland and Italy, which work in teams, sharing, developing and enriching this new method of learning mathematics. The results of this work are usually published and presented in international MATH.en.JEANS congresses, every year in another country. These congresses unite hundreds of students keen on mathematics, encourage creativity, the exchange of ideas and create new, lasting friendships.

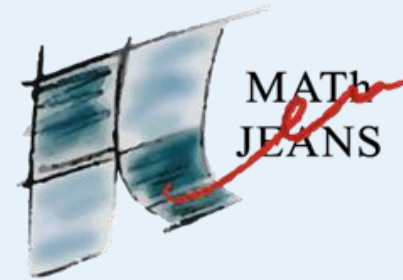




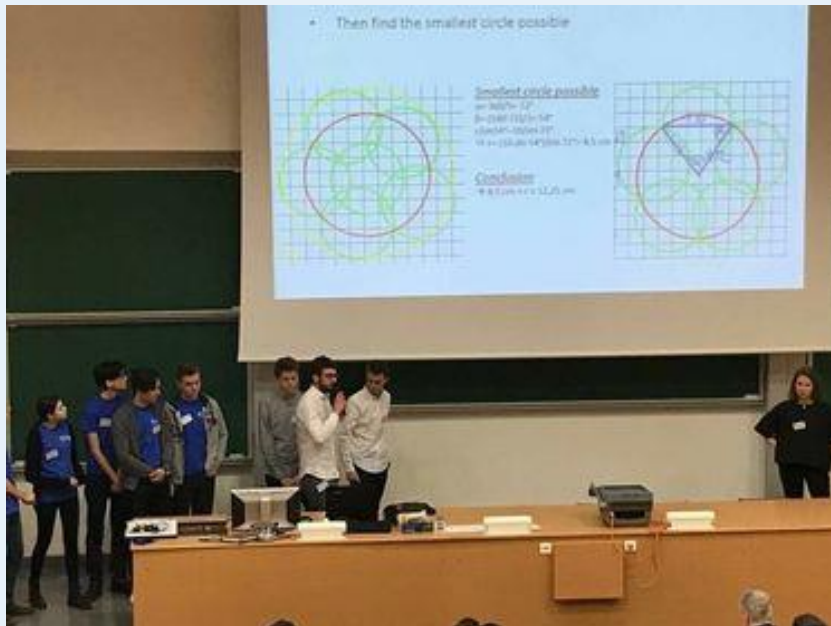


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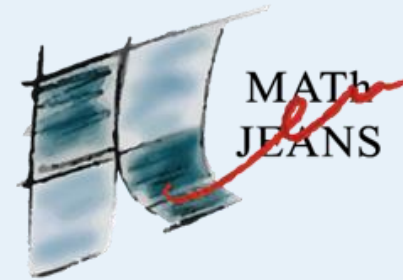
We worked alongside Belgian colleagues from Collège Sainte-Véronique, Liège, forming mixed teams. Each year, we were given a complex topic of research, with concepts that go beyond the school syllabus and we tried together to solve them, meeting online regularly on the platform eTwinning. One week before the congress, we would meet in person to finish the last details of our presentations and to spend great moments together in different social and cultural activities.





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In the first year we were welcomed by our teammates families in Belgium, while next year we hosted our Belgian friends in our homes. This way, we created special relationships and we were able to discover a new culture.

Therefore, the Math&Languages project offers a complete experience, educational, cultural and social, creating great memories and strong friendships while fueling the passion for mathematical research and encouraging teamwork and other important social values.





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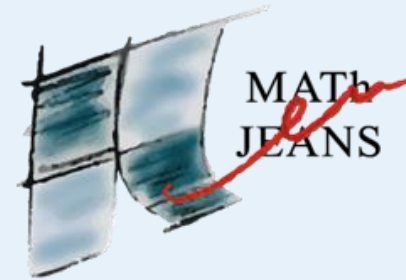
# Impressions of former and current participants in this project





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Attending three MATH.en.JEANS international congresses, I discovered that there is more to mathematics than the classic type of competitions. Teams from various cities in Europe gathered there to present unique problems on which they had been working until the event, problems usually proposed by researchers from the participating countries. I enjoyed the idea of exchanging solutions and problems with students from other education systems and to discover different approaches when it comes to maths.

Furthermore, these congresses improved my presentation and social skills and, more important, they made me overcome my fear of speaking in front of a wide public. They made me become comfortable with sharing my work and my views with more than just classmates, with people that have the same interests, but whom I have never met before.

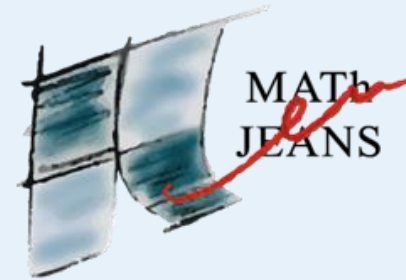
Veronica-Ioana Rotaru, University of Oxford, Faculty of Mathematics





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Taking part in a project such as Math&Languages felt like trying to sketch my future academic fingerprint. Even if it didn't have the structure of a contest between participants, it surely has been a competition with myself. The open problems that we had to tackle required finding our own original and individual approach towards understanding them. More mathematical knowledge is one factor that I developed during the preparation period, but for me, cultivating the ability to deconstruct and assemble a solution for a complex problem has been essential. In the end, I became more confident that I have to pursue a career involving scientific research.

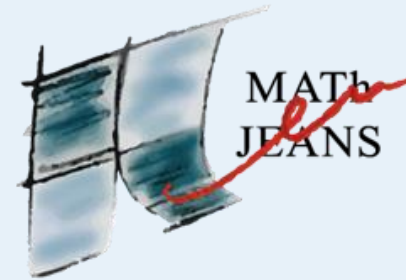
Iustin Şurubaru, University of Oxford, Faculty of Physics





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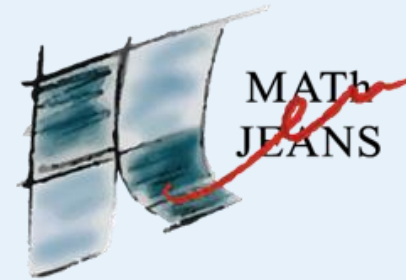


Mathematics has always been an important part of my life, both academically and as a personal interest. However, Math&Languages made me see how mathematical research can be applied to real-world problems and ignited my desire to further study it. Discussing our research with our Belgian partners and then with fellow students at the congress gave a sense of belonging to a one large European intellectual family.

Tudor Ungureanu, 12th Grade, Colegiul Național Iași



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I discovered the research side of mathematics when I took part for three consecutive years in the Math&Languages projects. As part of a student group, my colleagues and I analysed complex problems in a partnership with professional mathematicians and presented the results in international congresses.

The problems were definitely very challenging and yet, beautiful. Working as a team, with colleagues from my school and from Belgium, we managed to find creative solutions and even to publish them in articles on the MATH.en.JEANS website, but more importantly, I could create lasting friendships and have unforgettable experiences.

These projects had a great impact on my development, fuelling my passion and curiosity, and encouraged me to follow a career in mathematics.



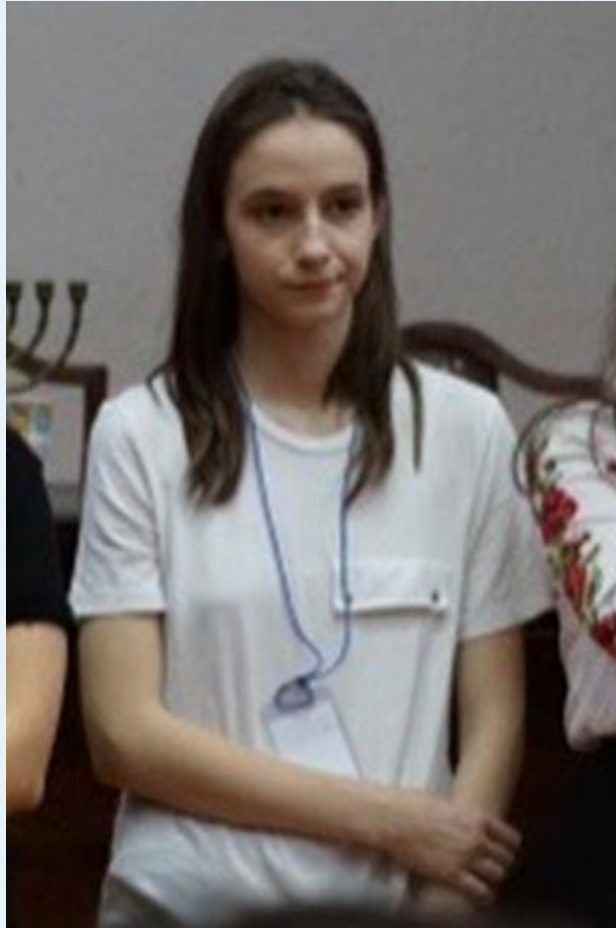
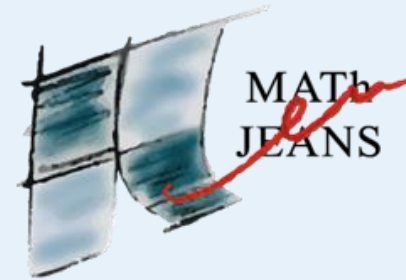
Ștefan Dan, 12<sup>th</sup> Grade, Colegiul Național Iași





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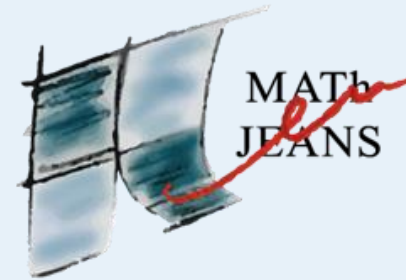
The International Congress “MATH.en.JEANS” introduced students to a different perspective on mathematics making hard mathematical concepts, that are less used in schools, understandable and easier to approach. From my point of view, it was a great experience and an opportunity to see how the research on a subject evolves, to learn the worth of team-work and to meet interesting people from different countries, all brought together by a simple passion, mathematics. An important lesson for all the participants is that mathematics is not just formulas and calculus but a way of understanding everything around us that can also be fun, fact that was definitely proved by the games brought or made by the students.

Diana Lupașcu, 11th Grade, Colegiul Național Iași



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Engaging in 2 MATH.en.JEANS congresses was a crucial moment in my life. Not only was I able to improve my teamwork skills by communicating with others, but I also realised a career in Mathematics would be suitable for me. While being part of an international team, I had the chance to familiarize myself with writing and presenting mathematical articles.

Working for months on the same problem made me understand how important hard work and patience are. Using unusual methods for finding solutions accentuated the need to think creatively. Moreover, visiting countries such as Belgium and France facilitated meeting other students and making friends, while discovering the local cultures and traditions.

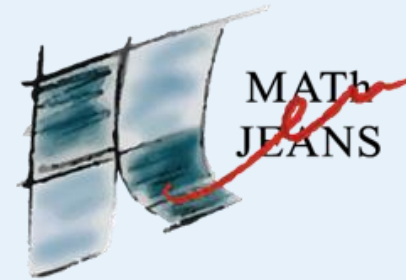
Radu Farcaș, studying Mathematics and Statistics at Imperial College London





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I have been a part of this project for almost two years. The Erasmus Project is a lot more than what it might seem at first sight, thing that I have noticed quite late, sadly. By participating, I was shown a new way of seeing just a short math problem. It has thought me to think at a larger scale, and to see things from a more general point of view. Also, it has provided me the opportunity to meet a numerous amount of wonderful and dedicated people to whom I came to become good friends with. It has created for me many amazing memories and I hope I will be able to be a part of it in the future.

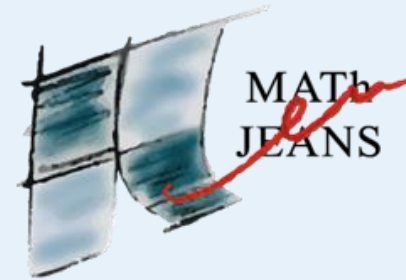
Vlad Teodor Ciobanu, 11th Grade, Colegiul Național Iași





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The Math&Languages project was an opportunity for me to better understand what mathematical research means, but it also gave me the chance to interact with students from prestigious schools around the world, especially with our Belgian partners. In addition, it was a real challenge for me, as I had to rely on my own creativity and to repeatedly change my perspective and approach in order to achieve useful results.

I will certainly never forget this unique experience that helped me enrich my general culture and make friends with people passionate about mathematics!

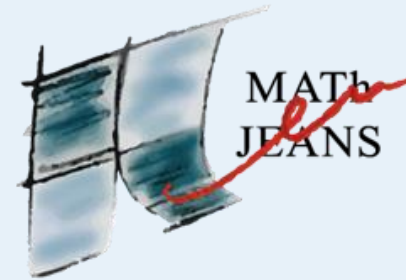
Ioana Larisa Cioată, 12th Grade, Colegiul Național Iași





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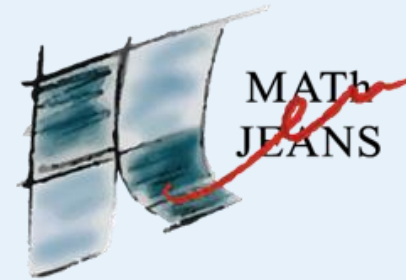
Math&Languages has been an unexpectedly interesting experience. I was happy to see how easily is to talk about math with other people which have other concepts and who think in a very different way. It was quite a challenge to understand everybody who I talked to point of view, but I would say it worth. This project helped me to strengthen my skills of public speaking and made me search for different ways to work with my team and how to manage the more difficult times with them.

Matei Mardare, 10th Grade, Colegiul Național Iași



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Within the Erasmus+ Math&Languages project I had the great opportunity to work on a research theme with students from abroad and to attend an international mathematics congress, all while getting to know the rich culture of countries such as Belgium and France.

The project has an excellent formative purpose for students, meaning that they can practice not only mathematical abilities, but also communication, socialization or teamwork abilities.

I've participated in this project for three years, and I am proud to say that the skills I've developed and the mobility itself positively changed my perspective on mathematics.

What I value the most about this experience, though, are the friends I've made during this project, people with whom I still keep in touch. It has broadened my horizons and increased my self-esteem.

I am grateful for the unique opportunity my highschool gave us as freshman students. Looking back at it, I believe this was one of the most formative experiences I've ever had!



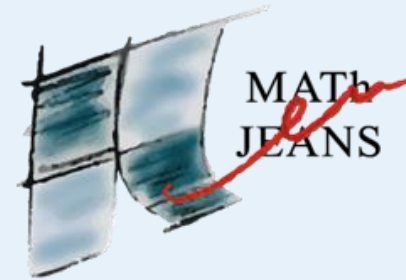
Maria Ilinca Straton, 12th Grade, Colegiul Național Iași





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I've taken part in this project for three years by now, and I can say for certain that it has changed my perspective over how I visualize mathematics in general. One of the most considerable advantages that have occurred to me is the research workshops in schools, which are reproducing in a reasonably convincing way the basics of mathematics laboratory.

Moreover, I had the opportunity to meet a certain number of researchers from different universities who taught me how to implement my ideas into practical work and showed me additionally ways in which I can develop my research materials. All in all, I strongly recommend to everyone passionate about mathematics to take part in this project, as it may broaden their knowledge in this field, as well as the number of acquaintances.

Cosmin Curuliuc, 12th Grade, Colegiul Național Iași



Last year's Math&Languages Project is one of those experiences that will come into my mind when I think about my high school years. I feel lucky to have participated in such an amazing project because it changed the way I perceive my favourite subject, Mathematics.

I understood the importance of different perspectives on a problem and how essential it is to get your ideas across to your colleagues. Doing research alongside University professors was an eye-opener and it made me realise how vast and complex Mathematics is but also that I could not see myself doing it all my life as a career.

What I enjoyed the most during the few days of the Congress were the friendships that I had made with fellow passionate students from other countries, broadening my understanding of other cultures. I would not hesitate to get involved in this project again and I recommend you to participate as well when given the opportunity.



Cătălina Maria Isache, 12th Grade, Colegiul Național Iași



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I can say that Erasmus+ Math&Languages project was a unique experience for me, because I managed to meet lots of people with different cultures and life ideologies. Also, when I was trying to solve the math problems it was needed for me to open my mind and thus, I learned how to think out of the box and try to apply my knowledge into more realistic scenarios.

I really enjoyed my time spent on the Erasmus+ project and I am grateful for having the chance to meet such amazing people from all over the globe with the same interests and passions as me.

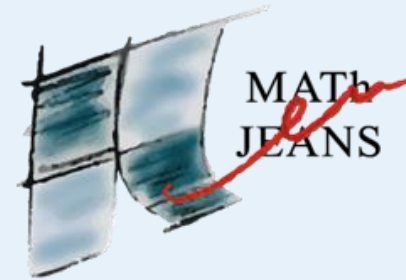
In the end, I recommend all young learners to participate in the Erasmus+ projects, because it can open a lot of opportunities for the career prospect and also is a good way to meet people with the same kind of conceptions and dedication as you.

Vlad Rovin Ignat, 12th Grade, Colegiul Național Iași





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I participated in 2 editions within the Math&Languages project, in 2018 and 2019, held in collaboration with a high school in Liège, Belgium. In the first year, within the project, we were hosted by the families of the Belgian participants, while, the next year, we welcomed them in our homes. Thus, the Math&Languages experience was a complete one, through which I not only acquired various knowledge in the field of mathematics, but I also took part in an exchange of culture and habits that changed the way I see the world.

I warmly recommend this experience to anyone who wants to learn more than is taught in school, but also to make lasting friends, and if I had the opportunity, I am sure I would participate in another edition again.

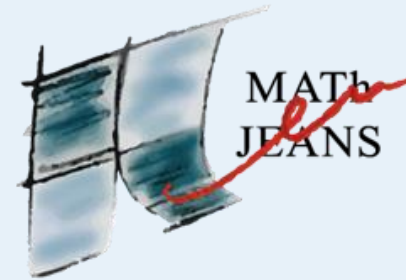
Ștefan Blăjuți, Imperial College London, Faculty of Physics





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The Math&Languages experience proved to be one of the most enjoyable activities I had the privilege of participating in. I had the opportunity to meet wonderful people, among the foreign students, with whom I became friends and came to know their customs and culture, as well as among my colleagues from Colegiul Național Iași, whom I got to know much better. Even in the classroom or in the various amphitheatres where our teams sustained presentations, the Math&Languages project offered memorable moments: the given problems proved to be interesting and difficult, their solutions requiring the application of mathematical principles in completely new situations, and the presentations helped us to strengthen our oratorical qualities.

Andrei Sandu, "Alexandru Ioan Cuza" University Iași, Faculty of Physics