



PRESS KIT

9th European Congress of Mathematics
Seville, from July 15 to 19



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Introduction

The 9th European Congress of Mathematics (9ECM), the quadrennial congress of the European Mathematical Society, will be held in its next edition in Seville between July 15 and 19, 2024, addressing this scientific discipline from all points of view: research, applications, education, history, transfer or outreach, among other topics.

The European Mathematical Society (EMS), which aims to promote the development of all aspects of mathematics in Europe, organises the European Mathematical Congress (ECM) every four years. It is the second largest mathematics event in the world.

ECM was first held in Paris in 1992 and has since been organized in different parts of Europe: Budapest in 1996, Barcelona in 2000, Stockholm in 2004, Amsterdam in 2008, Krakow in 2012, Berlin in 2016, and Portorož in 2021 (initially planned for 2020, it had to be delayed due to the coronavirus pandemic). On this occasion, Seville has obtained a majority support, beating Lisbon's candidacy by a comfortable majority.

The candidacy, coordinated by the University of Seville professor Juan González-Meneses, and presented together with a group of mathematical experts, has been chosen to hold this 9th European Congress of Mathematics in 2024. The Organizing Committee is made up of 18 mathematicians: nine women and nine men from different areas of mathematics and different universities: Almeria, Cadiz, Granada, Malaga and Seville.

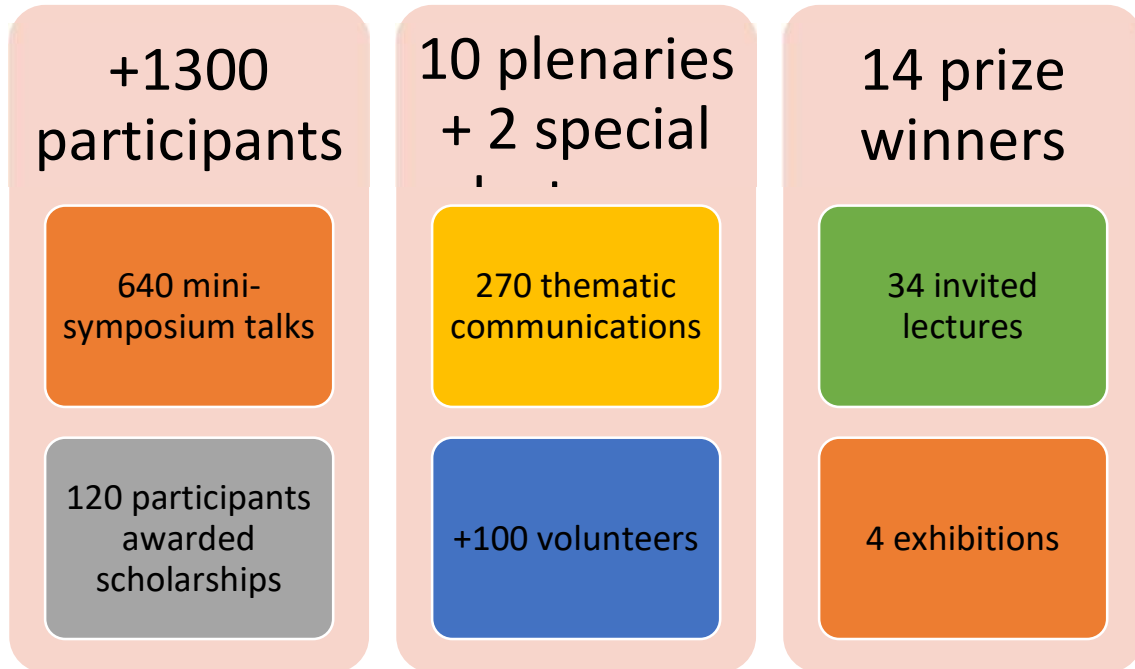
It is undoubtedly a meeting where the best mathematicians from all over Europe gather. Although Seville will be the headquarters, satellite events are held in other cities in Spain and Portugal. Previously, the 2024 European Mathematical Society (EMS) council will be held in Granada, on July 13 and 14.

The ECM Seville 2024 counts with the experience of the Institute of Mathematics of the University of Seville (IMUS) and the Institute of Mathematics of the University of Granada (IEMATH-GR), both nuclei of the Andalusian Institute of Mathematics (IAMAT). The event brings together the main protagonists of European mathematics, and serves as a meeting point for numerous researchers who have the opportunity to present and discuss the latest advances in their respective areas.

Likewise, at the opening ceremony, the prizes of the European Mathematical Society are awarded. These are the most important prizes in Mathematics in Europe, and the second in the world, after the prestigious Fields Medal.

The Congress

9ECM in figures



Venue

The general venue of the congress is the Higher Technical School of Engineering (ETSI) of the University of Seville (Avenida Camino de los Descubrimientos, s/n, Isla de la Cartuja, Seville), next to the Barceló Sevilla Renacimiento Hotel, annexed to the university campus.

The opening session on Monday 15 will be held at the Teatro de la Maestranza, Paseo de Cristóbal Colón 22.

The plenary lectures and special sessions will be held at the Barceló Convention Center, Av. Álvaro Alonso Barba, s/n, in the vicinity of the Engineering School.



Sponsors, collaborators and institutional support

- The 9ECM is organized by the University of Seville and is sponsored by the Ministry of Science, Innovation and Universities, the Ministry of University, Research and Innovation of the Junta de Andalucía, the Spanish Foundation for Science and Technology (Fecyt), the Provincial Council and the City Council of Seville, Ramón Areces Foundation, Cajasol Foundation and Foundation Compositio Mathematica. It is also an activity included in the Cajal Year.
- In addition, **the American Mathematical Society**, Cambridge University Press, De Gruyter, Elsevier, European Mathematical Society, EMS Press, Heidelberg Laureate Forum Foundation, London Mathematical Society, Math in France, Oxford University Press, Princeton University Press, Project Euclid, Societat Catalana de Matematiques, Springer Nature and The Royal Society Publishing also collaborate as prominent sponsors.
- Other **collaborators** are BCAM (Basque Center for Applied Mathematics), CRM (Centre de Recerca Matemàtica) and ICMAT/CSIC (Institute of Mathematical Sciences, of the Spanish National Research Council).
- Regarding **institutional support**, we find the four mathematical societies of Spain: RSME, SEMA, SEIO and SCM, and the Spanish Committee of Mathematics (CEMAT), in addition to the universities of Seville (host of the congress), Cádiz, Granada, Almería, Pública de Navarra, Politècnica de Catalunya, Carlos III and Santiago de Compostela and the Center for Mathematical Research and Technology of Galicia (CITMAGA).

Information from previous ECMs:

- [8th European Congress of Mathematics \(8ECM\)](#), Portoroz, 20-26 June 2021
- [7th European Congress of Mathematics \(7ECM\)](#), Berlin, 18-22 July 2016
- [6th European Congress of Mathematics \(6ECM\)](#), Krakow, 2-7 July 2012
- [5th European Congress of Mathematics \(5ECM\)](#), Amsterdam, 14-18 July 2008
- [4th European Congress of Mathematics \(4ECM\)](#), Stockholm, 27 June to 2 July 2004
- [3rd European Congress of Mathematics \(3ECM\)](#), Barcelona, 10-14 July 2000
- [2nd European Congress of Mathematics \(2ECM\)](#), Budapest, 22-26 July 1996
- [1st European Congress of Mathematics \(1ECM\)](#), Paris, 6-10 July 1992

Awards

The European Mathematical Society awards **ten individual prizes** to researchers of European nationality or working in Europe under the age of 35, in recognition of their outstanding contributions in the field of mathematics.

In addition, there are four more special prizes awarded in this ninth edition:

- **Felix Klein Prize.**

This prize aims to encourage and reward exceptional research in the area of applied mathematics, more specifically in the connection between mathematics and applications that leads to solutions to industrial problems.

Mathematician Felix Klein (1849-1925) is generally recognized as a pioneer in the close connection between mathematics and applications that lead to solutions to technical problems.

- **Otto Neugebauer Prize for the History of Mathematics**

The prize recognizes highly original and influential works in the field of the history of mathematics, that enhance our understanding of the development of mathematics, or of a particular mathematical subject in any period and in any geographical region.

Otto E. Neugebauer (1899-1990) was an Austrian-American mathematician and astronomer dedicated to the research of the history of science, and especially astronomy. He was a tenacious researcher, and the great discoverer of Babylonian mathematics.

- **Lanczos EMS/ECMI Mathematical Software Prize**

This prize aims to reward and recognize exceptional research in the development of mathematical software. The European Consortium for Mathematics in Industry (ECMI) also participates.

Cornelius Lanczos (1893-1974) was a pioneer in the development and implementation of numerical algorithms in digital computers.

- **Paul Lévy Prize in Probability Theory**

The Paul Lévy Prize in Probability Theory is a new prize jointly established by the European Mathematical Society, the Ecole Polytechnique, the École

Polytechnique Foundation and the Paul Lévy family, with financial support from BNP Paribas. The first prize is awarded in this edition in 2024.

Paul Lévy was a great French mathematician, a professor at the Ecole Polytechnique for almost 40 years, from 1920 to 1959. Paul Lévy's work largely shaped modern probability theory, which plays an increasingly crucial role in mathematics, physics, financial mathematics, and many other fields.

The EMS. History and structure

The European Mathematical Society (EMS) was founded in 1990 in Madralin, near Warsaw, Poland. Discussions to establish the Society began in Helsinki in 1978, during the International Congress of Mathematics. These first meetings were held within the European Mathematical Council, an initiative of Sir Michael Atiyah. Today it is made up of all the mathematical societies in Europe, 20 mathematical research centers and around 2500 individual members, associated through the societies of their countries of residence. Without a doubt, the EMS was the first step in the coordination of mathematics between European countries.

The purpose of the Society is to promote the progress of all aspects of mathematics in the countries of Europe: it seeks to promote mathematical research and its applications, advises and assists in the problems of mathematics education, is involved in the relations of mathematics with society and seeks to be a contact between mathematicians and people with political and economic responsibilities in Brussels. The EMS does not carry out or finance research projects, but promotes coordinated actions at the European level in favour of education, the dissemination of mathematics, the digitisation of mathematical literature, research and the transfer of mathematical knowledge.

How is EMS structured?

- The Executive Committee

The president of the EMS can only be president for four years. The committee meets two or three times a year, and is made up of the president, two vice-presidents, a secretary, a treasurer and five members.

The president of the European Mathematical Society is in charge of running the society. Presidents since 1990 have been:

1. Friedrich Hirzebruch, 1990–1994
2. Jean-Pierre Bourguignon, 1995–1998

3. Rolf Jeltsch, 1999–2002
4. John Kingman, 2003–2006
5. Ari Laptev, 2007–2010
6. Marta Sanz-Solé, 2011–2014
7. Pavel Exner, 2015–2018
8. Volker Mehrmann, 2019–2022
9. [Jan Philip Solovej](#) 2023–2026

- **The Council**

The so-called EMS Council is the supreme authority of the organization. It meets at least once every two years, and its responsibilities include admitting new corporate members, setting dues, approving budgets, and electing the President and other members. The EMS Councils have been held in different European cities since 1992, which took place in Berlin, and in 2024 it will be held in the city of Granada.

- **The committees**

The work of the society is done mainly through several Committees. These currently are:

- *Applied Mathematics Committee*, set up to cooperate with other application-oriented bodies and societies (such as ECMI, European Consortium for Mathematics in Industry [2]) and to increase public appreciation of the importance of mathematics in cultural, economic and social development.
- *Committee for Developing Countries*, which provides assistance on topics such as curriculum development; doctoral programmes and specialisation courses; donations, grants and grants for attendance at conferences.
- *Support Committee for Mathematicians in Eastern Europe*, which manages grants aimed at qualified young researchers who want to attend Congresses.
- *Education Committee*, responsible for educational issues.
- *Electronic Publishing Committee*, which was set up to oversee the development of the ELibM Electronic Mathematics Library and discuss matters of general interest in electronic publishing.
- *Committee for the popularization of Mathematics*, which organizes activities aimed at arousing interest and showing the importance of Mathematics in contemporary society.
- *Women and Mathematics Committee*. This committee wants, on the one hand, to explain the difficulties and specificities of women's academic careers, and on the other hand to highlight their achievements in Mathematics.

- *ERCOM (European Research Centres on Mathematics)* is a Committee made up of the scientific directors (or their representatives) of the main European research centers in Mathematics.

The EMS has five associations or associated centers in Spain: the Royal Spanish Mathematical Society, the Catalan Society of Mathematics, the Society of Statistics and Operations Research and the Spanish Society of Applied Mathematics.

Why is EMS important?

The EMS is a bridge between the mathematical community and the academic, scientific and political institutions of Europe, and also has different cooperation programmes with other scientific societies worldwide. In addition:

- Promotes major mathematical events, such as European congresses.
- It gives priority to the dissemination of mathematics in Europe. For example, it collaborates with *Euromath*, a student mathematics conference in Europe, to promote mathematics among young people or maintains *Pop Math*, a web portal for mathematical outreach events in Europe.
- Promotes the recognition of trajectories of excellence and scientific achievements, with the EMS awards.
- influences the preparation of successive framework programmes of the European Union; in the creation of the ERC European Research Council; recommends names to participate in different expert panels; and holds regular meetings with the European Commissioners and the Directors-General in order to give prominence to mathematics.
- It has launched EMIS (European Mathematical Information Server), an electronic server of the Society, located at the FachInformationsZentrum FIZ Karlsruhe, in Berlin, although it can be accessed through more than 40 devices distributed around the world.
- It has the zbMATH (Zentralblatt für Mathematik) database, an indispensable tool in the work of researchers.

Biennial meeting of the EMS Council in Granada

Granada hosts the meeting of the EMS Council on the weekend before the Congress, where the representatives of the societies belonging to the organization make the most important decisions for its normal development. These meetings take place every two years and when they coincide with the congress they are held before it in a town in the organizing country. Between 80 and 100 delegates with voting capacity attend and the

meeting is scheduled to take place on Saturday morning and afternoon and on Sunday morning.

The most important decision to be made on this occasion is the venue for the next congress, for which two candidacies have been presented: London and Bologna. The representatives of both candidacies will make a presentation to try to tilt the decision in their favor. The election of some members of the Executive Committee will also be held; specifically, two vice-presidencies, the secretary, and three members. Other organizational issues will also be resolved and the biennial budget will be approved.

The Executive Committee consists of ten people and the term of office of the current president ends in 2026. Currently, the Spaniard Luis Narváez, professor of the Department of Algebra at the University of Seville, is part of it.

Spain in the European mathematical context

With the arrival of democracy in Spain, mathematics experienced "a strong boost that placed us in privileged positions worldwide, despite the fact that we came from a certain irrelevance in previous times", and now "they occupy an **important place on the European scene**", says Alfonso Gordaliza, president of the Spanish Mathematics Committee. The Spanish scientific production in Mathematics collected in MathSciNet went from representing 7.93% of that of the EU and 2.31% of the world in the 90s, to 11.57% of that of the EU and 3.35% of the world in the period 2008-2017, which is the most recent included in the study, according to the White Paper on Mathematics (RSME and Fundación Areces, 2020). With these data, Spain ranks **9th in terms of world mathematical production**, with between 3.35% and 4.38% of the total (depending on the database consulted). Not only has it improved in terms of quantity, but also in terms of impact on scientific production in terms of **citations**, going from **position 10 (1995-1999) to position 7 (2013-2017)**.

As Gordaliza recalls, the "**great advance in Spanish mathematics** in recent decades" was already recognized with the designation of Barcelona for the third ECM in 2000, was consolidated with the great world event of the International Congress of Mathematicians (Madrid, 2006) and continued with the International Congress on Industrial and Applied Mathematics (Valencia, 2019). The fact that Spain is once again chosen for a conference of this importance is a sign of the "**relevance of its scientific community**". It is also reflected in **management positions** held by **Spanish**

mathematicians: Marta Sanz Solé in the presidency of the European Mathematical Society (EMS), Elena Fernández Aréizaga in the Association of European Operational Research Societies (EURO) and María Dolores Ugarte, currently in the Federation of European National Statistical Societies (FENSTATS).

As for the situation in Spain, there is a lot of **interest** in Mathematics studies, which are increasingly in demand and with university entrance marks much higher than in previous years, but driven by the **professional world rather than by the academic and research world**, Gordaliza points out: "Most students are attracted by the ability of current mathematics to be a **cutting-edge technology** to address the great and complex problems that society is facing at the moment on all fronts, such as biomedical, environmental and digital". Apart from the need to solve the deficit of young Spanish researchers, mathematics also needs to position itself as the fundamental basis of fields such as **artificial intelligence** and data science, which are continuously growing.

General programme and thematic structure of the congress

You can consult the simplified program, day by day here:

<https://ecm2024sevilla.com/index.php/program/program-at-a-glance>

Keynote speakers and newsworthy topics



[Anna Wienhard. Geometry applied to *big data* and artificial intelligence](#)

Anna Wienhard (Germany, 1977) has been Director of Research at the Max-Planck Institute for Mathematics in the Sciences in Leipzig since 2022. Prior to that, she held the Chair of Differential Geometry at the Ruprecht-Karls University of Heidelberg, where she was a member of the Interdisciplinary Center for Scientific Computing, among other positions. She studied theology and mathematics and has received various scholarships

and awards, such as from the European Research Council (ERC). She is an expert in differential geometry, deformation theory of geometric structures and moduli spaces, but she is also known for her interest in the applications of geometry to science, especially quantum field theory and machine learning.

Some of her recent work deals with Persistent Homology, an application of topology to *big data* that has become popular among geometers in recent years. With her research team, she is using geometry and features of symmetry clusters to search for computationally manageable graphical representations and machine *learning* applications. Science communication also plays an important role for her. Just as she enjoys a concert even if she is not a musician, she wants "to give people the opportunity to enjoy and experience some of the strange beauty of mathematics".



Avi Wigderson. How to Improve Algorithm Design, Computational Science, and Quantum Communication

Avi Wigderson (Israel, 1956), mathematician and computer scientist, has been a professor at the Institute for Advanced Study in Princeton since 1999. He was awarded the Abel Prize in 2021 and the Turing Award in 2023. He is an expert in the theory of computing, algorithm design, cryptography, and quantum computing and communication. He will be in charge of delivering the special lecture Abel Lecture.

His research serves to establish a theoretical framework to explain what happens "inside" computers and whether those processes can be improved. For example, if no one has managed to design an algorithm to solve a certain problem, we do not know if this is because it is impossible, or because we have not yet been ingenious enough. This has been the fundamental question of Wigderson's scientific life: what problems can be solved algorithmically, and how quickly and efficiently. His best-known contribution deals with the importance of randomness in the design of algorithms. Wigderson showed that whenever a problem can be solved with a probabilistic algorithm (one that

uses some kind of chance), it can also be solved just as effectively with a deterministic one (one that limits itself to following a series of predetermined steps).



[Annalisa Buffa. Mathematical simulations and algorithms to test the machines of the industry of the future](#)

Annalisa Buffa (Italy, 1973) has been a professor at the Ecole Polytechnique Federale de Lausanne since 2016. She is a member of the European Academy of Sciences, has won awards such as the Collatz of the International Congress of Industrial and Applied Mathematics (ICIAM) in 2015 and participated in many international conferences. She is an expert in numerical analysis with industrial applications.

Her work focuses on achieving faster and more reliable algorithms to simulate in computers the mechanical and electromagnetic behavior of machines with complicated geometries. To do this, she uses very modern and sophisticated mathematical tools, and models of physical behavior using partial differential equations. The application of this is immediate and helps to ensure that, before manufacturing, prototypes can be tested on the computer. But one can also ask questions about the future, such as these, that Buffa could address: can artificial intelligence be used to improve these processes? Will machine learning algorithms help to improve simulations without the need to better understand physics? What impact will AI have on geometric and industrial design?



Fabio Toninelli. Mathematics to model growth processes (such as that of a tumour or a city)

Fabio Toninelli (Italy, 1975) has been Professor of Mathematics at the Technical University of Vienna since 2020, where he heads the Probability Group. He was previously a researcher at the Centre National de la Recherche Scientifique (CNRS) in Lyon (2004-2020). His field of work includes probability theory, mathematics of statistical physics (e.g., processes in which there are many degrees of freedom, such as many interacting particles), and stochastic processes.

In recent work he has studied the equation known as KPZ (by Kardar, Parisi and Zhang), which models growth and aggregation processes, such as those of a tumour, a city or the way in which a crystal is formed by adding atoms from its environment. These processes have their laws, but they also include an element of chance, which is why the equations that describe them are called stochastic differential equations.



Étienne Ghys. The geometry of the soccer ball and Outreach

Etienne Ghys (France, 1954) is a mathematician and professor at the École Normale Supérieure de Lyon. He is currently director of research emeritus at the French National Center for Scientific Research (CNRS) and a member of the French Academy of Sciences. His scientific work focuses on geometry, topology and dynamical systems. Among his outstanding achievements are results that help to better understand the topology of the Lorenz butterfly, key in chaos theory. He will be the speaker of the special session Hirzebruch Lecture.

He has a well-established facet as a disseminator, both in conferences and in books (for example, on the geometry of the soccer ball or a snowflake), films and documentaries. He is a lucid, funny and original speaker or, as the famous mathematician Cédric Villani says, "the best lecturer in the world". He received the Clay Prize for the Dissemination of Mathematics and participated in the ICM (International Congress of Mathematics) in Kyoto and Madrid. He also has an interest in teaching and the value of mathematics to society.



Maxim Kontsevich. Bold Ideas in Quantum Field Theory and String Theory

Maxim Kontsevich (Russia, 1964) has been a professor at the Institut de Hautes Etudes Scientifiques (Institute of Higher Scientific Studies) in France since 1995. He received the Fields Medal in 1998. He works on the fundamentals of geometry, algebra and theoretical physics; specifically, in quantum field theory and string theory.

One of the most profound mathematicians of the late twentieth and early twenty-first centuries, he has had several famous breakthroughs: at the age of 26 he devised the solution of a conjecture by E. Witten (the most influential theoretical physicist of the last half century) shortly after having heard it in a talk; at 30, he conjectured an unexpected relationship between homological algebra and symplectic geometry that explained certain mysterious predictions of theoretical physicists. In Kontsevich's words, "for me mathematics is a journey that lasts a lifetime, from one area to another and back, I really do not belong to any specific field of mathematics".



[Benny Sudakov. Is complete disorder impossible? How many tribes does it take for a conflict to break out? Crazy Questions and Mathematical Answers](#)

Benny Sudakov (Georgia, 1969) is a professor at the Federal Institute of Technology (ETH) in Zurich. His field of work is algebraic and probabilistic methods in combinatorics, graph theory and Ramsey theory, which works with structures such as networks of interconnected nodes.

This can be applied to cities, neurons, and just about anything, and answer questions like these: If we have a number of municipalities and we start connecting them to roads, how dense does the network have to be for it to be inevitable that it contains "subnets" with some symmetry? Or something that apparently may not have an answer in mathematics: how many warrior tribes does it take for a conflict to break out? Sudakov has solved several important conjectures in recent years along these lines, and is also working on their applications to computer science and theoretical computer science.



Eero Saskman. How to Apply Pure Mathematics to the Study of Atmospheric Gases

Eero Saskman (Finland, 1962) has been a professor at the University of Helsinki since 2007, where he directs the Centre of Excellence 'Randomness and Structures' of the Academy of Finland. He has worked on complex and geometric analysis, partial differential equations and random geometry, and probability. He has pioneered research on Markov chain-based Monte Carlo methods (MCMC).

His research is an example of how pure and applied mathematics go hand in hand: he has developed studies in theoretical mathematical analysis and improved probabilistic algorithms that were invented in the 1940s, but he has also collaborated with the Finnish Meteorological Institute to analyze gas concentration data in the atmosphere using MCMCs. "The results of research in mathematical physics are applied in practice. Sometimes they can be put into practice quickly, but they are more likely to serve as a basis for further advances, whether in basic research or in applications."



André Neves. Searching for the minimum of the maximums (and the maximum of the minimums) and their applications

André Neves (Portugal, 1975) is a professor at the University of Chicago. He is known for his work in metric and Riemannian geometry (associated with the theory of general relativity); especially for being a pioneer in the use of so-called min-max methods in the study of minimal surfaces.

To understand this, we can think of the cut-off marks to access university: when we say that the Bachelor degree with the highest cut-off mark is Medicine, we are doing a minmax (in this case, the opposite, a maxmin): we look first, within each Bachelor, at the grade of the last student to be admitted (a minimization) and, among all those minimum marks, we see which one is the highest (maximization). In Neves's work, instead of marks, we have areas of surfaces, and, instead of Bachelor degrees, families of surfaces. With these methods, he has proven several conjectures that had been open for a long time, such as the Yau Conjecture, which speaks of spaces containing infinite minimal surfaces. According to Neves, "this is an exciting time for variational methods for minimal surfaces and there is a lot of activity from young mathematicians."



[Vlad Vicol. Equations more than 200 years old and the most important unsolved problem in classical physics](#)

Vlad Vicol (1983) is Professor of Mathematics at the Courant Institute of Mathematical Sciences at New York University.

Most physical phenomena, such as the motion of a fluid, are described with nonlinear partial differential equations. Vicol is working on developing new techniques to analyze this type of equations, with applications especially to fluid mechanics. Although it is relatively easy to write the nonlinear equation that models a phenomenon, it is not so easy to make predictions from the equation. In fact, fluid equations are more than 200 years old and it is still not well understood how everyday phenomena such as turbulence

derive from them. This is where theoretical advances, numerical simulation, experiments, computing come in... Will AI and computational advances be able to lend a hand in solving it?



Tamar Ziegler. The mathematical study of dynamic systems (such as financial markets) over time

Tamar Ziegler (Israel, 1971) is a professor at the Einstein Institute of Mathematics at the Hebrew University of Jerusalem and a member of the Academia Europaea. Her work combines several areas: number theory, combinatorics and theory of dynamical systems, specifically the so-called ergodic theory. This is a branch of mathematics that studies the long-term behavior of dynamical systems (it analyzes how a system can traverse its phase space).

This theoretical approach can be applied in a multitude of scenarios: in statistical physics and to help understand the distribution and behavior of particles in thermodynamic systems; in information theory, algorithm and data analysis; to understand how financial markets behave over time; and in modeling complex biological systems (migration of birds and marine mammals or animal population dynamics). Ziegler applies ideas from this theory to other areas of pure mathematics, especially to what some mathematicians consider the 'queen of mathematics': number theory.



[Martin Bridson. Symmetries and mathematics to understand geometries of more than three dimensions and strange universes](#)

Martin Bridson (Isle of Man, 1964) is a Fellow of the Royal Society, Professor at the University of Oxford and President of the Clay Mathematics Institute. He has won a lot of awards and is known for his contributions to geometric group theory. It combines two things: group theory, which systematizes what we intuit by symmetry and transformation (groups are the mathematical objects that describe symmetry) and is fundamental in all mathematics and also in physics (especially central in particle physics); and geometry, which systematizes the idea of space.

Thanks to geometric group theory, it is possible to solve complex problems about finite volumes in space-time and try to understand geometries of more than three dimensions and curved universes.

Public Lectures

Tales of (mathematical) Paradise



José Ferreirós

Professor of Logic and Philosophy of Science at the University of Seville, José Ferreirós specialises in the history and philosophy of mathematics, with secondary interests in logic and physics; he is the author of a well-known book on the development of set theory and a philosophical text on mathematical knowledge. Founding member and first president of the Association of Philosophy of Mathematical Practice (APMP), he is also a member of the IMUS (Institute of Mathematics of the University of Seville) and the Académie Internationale de Philosophie des Sciences (Brussels).

His lecture recalls David Hilbert at the beginning of the twentieth century saying that "no one will expel us from the Cantorian paradise". Set theory emerged suddenly a century and a half ago with a surprising article by Cantor. Ferreirós will present three key moments of this theory: 1874 and the birth of the transfinite cardinalities in curious circumstances; 1905, a controversial moment in which the schism between constructivists and formalists emerged; and 1925, the culminating moment of the foundational debate between critics (Weyl, Brouwer, Skolem) and supporters of the higher infinity.

In search of a neuroprotective therapy in Parkinson's disease



José López-Barneo

Professor Emeritus of Physiology and Biophysics at the University of Seville, José López-Barneo has also been a visiting professor at Stanford University and Columbia University. He founded the Institute of Biomedicine of Seville (IBiS), which he directed from 2006 to 2020. In 2016 he received an Advanced Grant from the ERC to study the molecular mechanisms of acute oxygen detection. In 2023 he received the Santiago Ramón y Cajal national science award. He is a member of EMBO and the European Academy.

His main research interests are related to the study of acute oxygen sensing mechanisms in mammals, as well as cellular adaptations to hypoxia. He also works on the molecular basis of neuroprotection and neurodegeneration, with special emphasis on Parkinson's disease.



Eleonora Viezzer

An expert in plasma physics and fusion energy, Eleonora Viezzer is head of the Plasma Edge Physics research group and co-IP of the SMART tokamak at the University of Seville. She received her PhD in 2013 from the Ludwig Maximilian University of Munich and the Max Planck Institute for Plasma Physics (IPP), where she became a researcher at EUROfusion. In 2016 she moved to the University of Seville with a Juan de la Cierva scholarship and a Marie Skłodowska Curie scholarship, where she founded the Plasma Science and Fusion Technology group, together with Professor Manuel García Muñoz, which now consists of 33 members. She has received numerous awards, including an ERC Starting Grant (2018), ERC Consolidator Grant (2023), the Princess of Girona Research Award (2022), the RSEF-BBVA Physics Award (2022), the Manuel Losada Villasante Award (2021).) and the IUPAP Young Scientist Award (2018).

Her talk begins by recalling the global energy problem and the role of nuclear fusion as a possible source of cheap and sustainable energy, to explain some details of the scientific and technological challenges posed by its development, especially those affecting the maintenance of plasma and its stability in tokamak-type magnetic confinement reactors due to wave-particle interactions.

Biotic globalization by invasive species



Monserrat Vilà

Specialized in the ecology of invasive plants, Montserrat Vilà is a research professor at the Doñana Biological Station (EBD-CSIC) in Seville (Spain). She previously completed a postdoctoral fellowship at the University of California, Berkeley. Currently, her research focuses on the impacts of biological invasions and the development of invasion risk assessments. She is a member of the Scientific Forum of the European Regulation on Invasive Alien Species, of the IUCN SSC Invasive Species Group and Chair of the European Working Group on Biological Invasions (NEOBIOTA). She is the lead author of the IPBES Invasive Alien Species Assessment. In 2021 she received the Alejandro Malaspina National Research Award in Environmental Science and Technology, and the Mercer Award from the Ecological Society of America.

Her talk will deal with the introduction of exotic species promoted by human action, accelerated in the last century with the global increase in trade, the movement of people and the development of large infrastructures. Many alien species are able to establish, expand and invade the region of introduction, thereby altering biodiversity and the ecosystem. They can also affect all socioeconomic sectors, from agriculture to tourism to public health. As with epidemics, strategies to deal with biological invasions require better prevention and early detection policies and management.

Round tables

- [What works \(and what doesn't\) in math class, according to science](#)

Monday 15, 5:30 p.m. *How to Enhance Mathematical Competence? Lessons from great-scale assessments.* Organized by the Royal Spanish Mathematical Society (RSME) and the European Mathematical Society (EMS)

In the latest edition of the Programme for the Comprehensive Assessment of Students (PISA) Report, in 2023, Spanish students obtained their worst result in Mathematics in history. This assessment of the knowledge of secondary school students will be one of the starting points of this round table that will address the challenges and strategies for teaching this discipline at university. Although most of the attendees are researchers in mathematics and not in mathematics education, many of them are university professors.

The panel will feature experts from Spain, Portugal, Germany and Italy, all of them with an outstanding track record in educational research and its application in different contexts. Active methodologies that promote critical thinking and conceptual understanding in students, rather than mere repetition and copying, will be discussed. The importance of solving problems in various ways to deepen mathematical understanding will be highlighted, following principles established for decades, although adapting them to the characteristics and needs of today's students, who have changed significantly in terms of socioeconomic diversity and pre-university learning methods.

Participants:

- Luis J. Rodríguez-Muñiz. Second Vice-President of the RSME. University of Oviedo, Spain. Organizer.
- Nuria Climent. President of the Spanish Society for Research in Mathematics Education (SEIEM). University of Huelva, Spain.
- Susana Carreira. University of the Algarve, Portugal.
- Giorgio Bolondi. Free University of Bozen-Bolzano, Italy.
- Andreas Eichler. Universität Kassel, Germany.

- [The mathematics of artificial intelligence](#)

Monday 15, 5:30 p.m. *Mathematics and Artificial Intelligence. A BCAM Panel for 9ECM*

Under the wide umbrella of the term artificial intelligence, there is an amalgam of technologies that have a common base: algorithms, computer science, mathematics. From machine learning to neural networks and deep learning, to subareas such as computer vision, AI systems are escalating in complexity and risk. Biases, black boxes, loss of explainability, lack of data available for training...

In recent years, a technology that has actually been in the making since the 50s and that has a common basis, mathematics, has imploded. What can AI do to help solve math problems? And vice versa, what can be the fundamental contributions of mathematics to the development of AI? In that sense, can they make these new AI tools reliable? What threats and risks can arise if there is no correct mathematical formalization of AI problems? What steps should the mathematical community take to address these challenges? How is all this going to influence the teaching of mathematics? This panel organised by the Basque Centre for Applied Mathematics (BCAM) will seek to answer these questions.

(Provisional rapporteurs, to be confirmed)

- Luis Vega. Basque Center for Applied Mathematics (BCAM). *Chair*.
- Rosa Crujeiras. University of Santiago de Compostela.
- Matti Lassas. University of Helsinki.
- Justo Puerto. University of Seville.
- David Ríos. AXA-ICMAT Director of Adversarial Risk Analysis.
- Begoña Vitoriano. Complutense University of Madrid.

▪ [History: Translating European Mathematics](#)

Tuesday 16, 5:30 p.m. *Translating European Mathematics*. Organized by the Institute of Mathematical Sciences (ICMAT) and the International Commission on the History of Mathematics (ICHM).

The round table composed of leading historians and mathematicians addresses the importance of translating historical mathematical works to ensure their accessibility and global understanding. A clear example is Newton's "Principia": the passage from the text originally in Latin to French and English was decisive in its subsequent impact. Also, this process is vital in contemporary texts. Despite the predominance of English in the scientific literature, mathematics is still published in multiple languages. Having access to accurate, quality translations facilitates knowledge sharing and promotes international collaboration.

However, this procedure is not without its challenges. The correct interpretation of technical concepts and terms is not self-evident and can vary significantly between translators. The panelists will also discuss strategies to improve the accessibility of translations, such as the creation of online platforms where researchers can share their translated work, thus contributing to a greater dissemination and understanding of mathematics worldwide.

Participants:

- Norbert Schappacher. University of Strasbourg. Moderator.
- June Barrow-Green. The Open University and The London School of Economics. President of the International Commission on the History of Mathematics (IMU).
- Frances Goldman. University of Glasgow. English editor at the London Mathematical Society of Russian publications.
- François L . Claude Bernard U. of Lyon. Member of "The Brill-Noether report on the theory of algebraic functions (1894): translation and analysis project".

- [ERC, excellence and funding](#)

Tuesday 16, 5:30 p.m. Organised by the European Research Council (ERC).

ERC Grants, i.e. European Research Council (ERC) grants, are the most prestigious grants for researchers within Europe. They are awarded to projects at the frontier of knowledge, which represent an important and original advance within their field. These have been crucial for the development of mathematical research in Spain, placing the country in a prominent position within the European scientific panorama.

Spain is the sixth receptor of these funds in Mathematics, behind Germany, the United Kingdom, France, the Netherlands and Italy. Since its creation in 2007, the ERC has allocated €776 million to projects in this area throughout Europe, of which €32 million have been allocated to Spanish institutions. Figures that could still increase if we take advantage of the fact that mathematical research is very transversal, explains Mar a Gonz alez, coordinator of the Mathematics Panel of the European Research Council and organizer of the round table.

To inform and explain the "art of submitting applications" Gonz alez will be accompanied by researchers who receive the grant and the following evaluators of the applications:

- Annalisa Buffa, professor at the Ecole Polytechnique F d rale de Lausanne
- Giovanni Forni, Professor at the University of Maryland
- Stefanie Petermichl, professor at the University of Toulouse
- Jan Philip Solovej, President of EMS

- [Open access to mathematical publications](#)

Wednesday 17, 5:30 p.m. *New Scenarios in Open Science. A CRM Panel for 9ECM*

Open Access to Scientific Literature (OA) means its free availability on the Internet, allowing any user to read, download, copy, print, distribute or otherwise use it, without any financial, technical or other barriers. Open access is not a new phenomenon, since the first international declarations in its favor date back to 2002 (Budapest Declaration) and 2003 (Bethesda Declaration and Berlin Declaration). From its beginnings, this global movement has emphasized the great opportunities offered by the Internet and other technological advances to communicate research, while questioning the validity of the prevailing publishing system, which is more interested in its economic benefits than in the social value of research.

To address the current journey, projection and controversy of Open Access, the panel discussion "New scenarios in Open Science" will take place, with the speakers:

- Miguel Benítez, Basque Center for Applied Mathematics (BCAM)
- André Gaul, European Mathematical Society Publishing House (EMS)
- Ignasi Labastida i Juan, University of Barcelona
- Eva Méndez Rodríguez, Universidad Carlos III de Madrid.

It is a round table that will address the changing world in which science is immersed with the paradigm shift in terms of what open science represents, and how mathematics, as a cross-cutting area, specifically addresses this change. In summary, the objective of the panel discussion is to discuss with the invited experts the current regulatory, research and editorial facets of Open Access.

- [Women mathematicians: achievements, references and challenges to achieve equality](#)

Wednesday 17, 5:30 p.m. *EWM panel discussion: Celebrating and supporting women in mathematics*

(Speakers to be confirmed)

The presence of women in the world of mathematics has increased over the years, but there are still **great inequalities** and specific obstacles for those who want to embark on a career in academia and research. What are the good practices that should be continued? What challenges remain to keep moving towards a **more inclusive** mathematical community? These will be the questions that will be raised in this round table organized by the European Women in Mathematics (EWM) association and which

is framed around the traveling exhibition "Women in Mathematics From Around the World. A gallery of portraits".

The panel discussion will also give a brief introduction to the **exhibition**, which features **34 broad profiles of women mathematicians** from around the world, through photographs, interview excerpts and videos. Inaugurated in 2016 at the ECM in Berlin, it can be visited **during the congress** at the Higher Technical School of Engineering of the University of Seville.

- [Environmental sustainability and mental health in young mathematicians](#)

Thursday 18, 5:30 p.m. A EMYA panel for 9ECM. Sustainability panel & group discussion

Concern for **environmental sustainability and mental health** has not stopped increasing in recent years, especially appealing to young people. In the field of scientific research, these topics resonate with their own nuances and can go hand in hand. On the one hand, it is a profession of a markedly social nature, where trips to interact with colleagues and attend congresses play a fundamental role. But how do **we deal with the environmental impact of these displacements?** What kind of measures can be taken to mitigate climate change? On the other hand, academic careers can favor behaviors or disorders that weaken the well-being of researchers in the short and long term. The pressure to achieve all the expected objectives is commonly compounded, especially among young people, by the **lack of stability options and problems of work-life balance**. What can be done, individually and collectively, to alleviate this problem?

Organised by the EMS Young Academy (EMYA), the idea of the session is to discuss in small groups sustainability in **academic careers**, both in terms of the environment and mental health. Participants are invited to share their experiences, opinions and ideas and then draw conclusions with which the EMYA can promote future actions. The activity is **especially aimed at young people** attending the ECM and the groups will be energized by EMYA members.

- [The role of mathematical research institutes](#)

Thursday 18, 5:30 p.m. The Role of Institutes of Mathematics in the Advancement of Mathematical Research. An IMUS Panel for 9ECM

The Institute of Mathematics of the University of Seville (IMUS), as the coordinating agent of the mathematical research carried out in Seville, aims to expand the visibility

of mathematical research at the University of Seville and expand international relations with other societies and research centers of recognised prestige at European level. To this end, it organizes the round table "The role of mathematics institutes in the advancement of mathematical research".

The composition of this panel discussion will be as follows:

- Justo Puerto, director of the Institute of Mathematics of the University of Seville (IMUS)
- Anna Wienhard, Director of the Max Planck Institute for Mathematics in the Sciences (MPIM)
- Martin Bridson, President of the Clay Mathematics Institute (CMI)
- Miguel Sánchez, director of the Institute of Mathematics of the University of Granada (IMAG)
- Rosa Crujeiras, director of the Center for Mathematical Research and Technology of Galicia (CITMAGA)
- Lluís Alsedà, director of Centre de Recerca Matemàtica (CRM)
- José Antonio Lozano, director of the Basque Centre for Applied Mathematics (BCAM)
- Javier Aramayona, director of the Institute of Mathematical Sciences of Madrid (ICMAT)

This event will address, among other topics:

- Attracting talent through mathematics institutes.
 - Program of visits by researchers.
 - Doctoral Programme in Mathematics.
 - Industrial Doctoral Programme in Mathematics.
- Agreements with companies.
- Knowledge transfer
 - Recognition in international rankings.
 - Self financing.
 - Financing of activities
 - Organization of conferences and congresses to promote mathematical research at European level.

A cross-cutting axis of the 9ECM: cooperation

120 scholarships for young people and mathematicians from developing countries. The 9ECM is committed to the objective of offering the possibility of attending the congress to mathematicians who do not have sufficient resources to do so. The Congress has launched a call for scholarships that cover the registration fee, accommodation and a travel grant. Some 260 applications were received, of which a total of 120 scholarships have been awarded.

The evaluation committee of the scholarships, coordinated by Mirta M. Castro Smirnova, from the University of Seville, is also made up of Martina Magliocca, Ramón y Cajal Researcher from the University of Seville; by Christophe Ritzenthaler, Professor at the University of Rennes 1 and Director of the International Centre for Mathematical Pures and Applications (CIMPA); Lidia Fernández, professor at the University of Granada and María de los Ángeles García Ferrero, researcher at the Institute of Mathematical Sciences of Madrid, attached to the CSIC (ICMAT).

Some 75 per cent of the scholarships awarded have been given to mathematicians from developing countries, also taking into account the criterion of gender parity. The remaining 25 percent was awarded to professionals who are mainly at an early stage of their research career (master's students, PhD students and postdoctoral researchers) from other countries, including Spain, who did not have sufficient funding to participate in the Congress.

Among the developing countries where these scholarships have been awarded, Eastern European countries such as Ukraine, Serbia, Montenegro and Romania stand out, as well as other countries such as Turkey, and beyond Europe, Uzbekistan, India, Pakistan, Iran, Morocco, Tunisia, Algeria, Nigeria, Ethiopia, Uganda, and within Latin America, Mexico, Honduras, Colombia and Brazil.

Mini-symposium on collaboration between countries. The Congress also includes a Mini-symposium entitled "*Shared Horizons: Collaborations Between Europe and the Global South*", in which the Director of CIMPA participates, among others, and in which some of the fellows, who have contributed significantly to the development of mathematical research in their respective countries, will participate, and where, as its name suggests, it will be stressed, on issues of scientific collaboration between Europe and the so-called "Global South".

Exhibitions

Cartography of the Modern Age



Under the title "Maps. Cartographic heritage in Seville from the fifteenth to the eighteenth centuries", an exhibition opens on June 27 that will be open until July 20 at the Cajazol Foundation (Plaza de San Francisco, entrance on Álvarez Quintero street), from Monday to Saturday from 11 a.m. to 2 p.m. and from 6 p.m. to 9 p.m. The curator of the exhibition is Guillermo Curbera, professor of Mathematical Analysis at the University of Seville.

The exhibition shows a curated collection of maps and books with maps from the period spanning the end of the Middle Ages and the beginning of the Renaissance to the Enlightenment, coming from the Archivo de Indias, the Biblioteca Colombina and the University of Seville. It consists of 29 works, of which 7 are incunabulum (published until 1500), 12 were published in the sixteenth century and the remaining ten in the seventeenth and eighteenth centuries. Some of these pieces have exceptional value and in some cases have not been shown to the public before. These include:

- Seven maps drawn with pen and illuminated by Spaniards in America, dated between 1544 and 1712 (Archivo de Indias).
- The original of the book "Historia rerum", written by Pope Pius II, owned by Christopher Columbus, which includes a final booklet with a handwritten copy of a letter from the Florentine cartographer Paolo Toscanelli with indications on how to get to "the Indies" by sailing west. It is a unique specimen. (Biblioteca colombina)
- "Lettera delle isole nuovamente trovate", a printed version of the letter that Columbus wrote in March 1493, explaining his voyage to the Catholic Monarchs.

The letter was translated into Italian verse by Bishop Giuliano Dati in June 1493. Printed in Rome, it circulated widely throughout Europe announcing the discovery. It is the only existing copy. (Biblioteca Colombina)

As a complement to the exhibition, the following conferences will be held in the Salvador Room of the Cajasol Foundation:

- The Seville of the sixteenth century: Maps and books, science and mathematics, by Antonio J. Durán Guardado, professor of Mathematical Analysis at the University of Seville, member of the Royal Academy of Sciences of Seville, popularizer and novelist. Thursday 27 June, 8pm.
- Christopher Columbus, portrait of a man, by Consuelo Varela Bueno, historian, expert in American studies and in Christopher Columbus. She was director of the School of Hispanic American Studies of the CSIC and director of the Royal Alcázar of Seville. Monday, July 1, 8 p.m.
- Artisans of the Indies. Pilots, cartographers and cosmographers in modern Seville, by Antonio Sánchez Martínez, professor of History and Philosophy of Science at the Autonomous University of Madrid. Wednesday, July 3 at 8 p.m.

The geometric treasure of the Alhambra



The exhibition A Geometric Walk Through the Alhambra will be exhibited at the headquarters of the 9ECM (School of Engineering of the University of Seville), during the celebration of the Congress (July 14 to 19, 2024). The curator of the exhibition is Miguel Ortega, professor of the Department of Geometry and Topology at the University of Granada. The exhibition consists of the fusion of texts with images, in which part of the mathematical secrets present in the Alhambra in Granada are explained. In this monument, the Nasrid artists and craftsmen brimmed with imagination when it came to applying Euclidean geometry to the decoration of floors, doors, windows, walls and ceilings, the great beauty of the patterns obtained being well known. It is worth paying

attention to typical decorative elements, such as the Nasrid bow tie, symbol of the Alhambra, indicating how they can be drawn with a ruler and compass, even though computers are used today. As the exhibition will be part of a mathematics congress, the technical part is important. The concept of plane crystallographic groups, Conway's notation for their description, and their classification theorem are reviewed, which states that there are essentially 17 different ways to fill the plane from a basic drawing by jumping in two different directions, without overlaps or gaps (as happens in bathrooms and kitchens of any house covered by tiles). How many of these shapes are present in the Alhambra? To answer the question, examples of the crystallographic groups it contains will be shown, spread over various rooms and the Museum.

Women mathematicians from all over the world



During the Congress, an exhibition project that has already been exhibited in different countries on several continents arrives in Seville: *Women in Mathematics From Around the World. A gallery of portraits*, which will be located at the headquarters of the Congress, the School of Engineering of the University of Seville, during the week of the Congress. The exhibition presents 34 broad profiles of women mathematicians from all over the world, through photographs, texts and videos.

This traveling exhibition project was born on the occasion of the 7th ECM, held in Berlin in 2016, in order to raise awareness of the difficulties that women still face today in being able to pursue an academic career on an equal footing with men, which causes a huge disparity in the proportion between the two sexes. Initially, it portrayed only 20 European mathematicians and has since been enriched by the incorporation of researchers from other countries, such as Japan, Costa Rica and India. The exhibition has already traveled to more than 150 locations in Europe, South America, Australia and Africa. It is currently also exhibited or will be exhibited this year in Strasbourg (France), Ghent (Belgium), Novara (Italy), Athens (Greece) Frankfurt am Main (Germany) and Potters Bar (United Kingdom).

The photographs shown are the work of photographer Noel Tovia Matoff and the interviews have been conducted by Sylvie Paycha, together with Sara Azzali on a few occasions. The exhibition was the origin of the project, but it currently covers other activities through a platform (<https://womeninmath.net/>), which allows networking and exchanges and mutual aid. A printed catalog with the initial 20 profiles can also be purchased.

Experience has shown the original idea to be a success. The figures presented and their trajectories serve as a model to stimulate young women scientists to trust in their ability, by presenting women mathematicians highlighting the human aspects of mathematical production. The project has strengthened collaboration and exchanges between mathematicians from all over the world and stimulates dialogue between them and the general public. The project received the 2015 Humboldt Alumni Award.

The mathematics of knots



Along with the previous exhibitions, the Higher Technical School of Engineering (ETSI) of the University of Seville (La Cartuja Campus), venue of the 9th European Congress of Mathematics (9ECM), will also host the exhibition "Nudos" (Knots), which can be visited between July 15 and 19.

This exhibition, aimed at the general public, has ten three-dimensional models of mathematical knots specially selected for their particularities, symmetries and beauty, which will guide the visitor through the fascinating world of Knot Theory.

With interactive explanations, each knot represented will serve as a model to illustrate some of the most interesting aspects and properties of this branch of mathematics, from its origin (linked to Chemistry) to the most innovative techniques that allow us to distinguish molecules.

The exhibition has been designed and prepared by Juan González-Meneses (Department of Algebra of the University of Seville), Marithania Silvero (Department of Algebra of the

University of Seville) and Francisco Manuel Vega (Department of Applied Physics of the University of Seville).

Satellite Congresses

Within the framework of 9ECM, dozens of congresses or satellite conferences are held between May and September 2024 anywhere in Spain or Portugal. Specifically:

May 2024:

- Towards the infinite dimension and beyond in quantum information, May 5-10, 2024, Granada, Spain.
- Generalized Geometry meets String Theory, May 12-17, 2024, Granada, Spain.
- Positive solutions of polynomial systems derived from real-life applications, May 19-24, 2024, Granada, Spain.
- Bridging the Gap: The Importance of Communicating Mathematical Research to the public and in Education, May 21-24, 2024, Mallorca, Spain.
- Climate-Inclusive Ecosystem Modelling: Understanding Ecosystem Dynamics in a Changing World, 27-29 May 2024, Barcelona, Spain.

June 2024:

- From Evolution to Bioengineering of Biological Pattern Mechanisms – Advances and Mathematical Challenges, June 2, 2024, Granada, Spain.
- BAC24 Analysis Conference Barcelona, 3-7 June 2024, Barcelona, Spain.
- Categories, Models and Systems of Functors and Tensors, from June 3 to 7, 2024, Santiago de Compostela, Spain.
- PDE Methods in Machine Learning: From Continuous Dynamics to Algorithms, June 9-14, 2024, Granada, Spain.
- Methods in Banach spaces, from 10 to 14 June 2024, Badajoz, Spain.
- Geometry of Field Theories, June 12-14, 2024, Madrid, Spain.
- From classical to modern analysis: in memory of Professor José Carlos Petronilho, June 24-28, 2024, Sanlúcar de Barrameda, Spain.

- EACA2024, Computational Algebra and Applications Meeting, June 24-26, 2024, San Lorenzo de El Escorial, Spain.
- Topology, Algebra and Categories in Logic (TACL), June 24 to July 5, 2024, Barcelona, Spain.
- European School of Differential Geometry (ESDG), June 24 to July 5, 2024, Granada, Spain.
- Interactions between Geometry, Algebra and Topology, June 25 to July 5, 2024, Barcelona, Spain.

July 2024

- Perspectives on representation theory, July 1-3, 2024, Coimbra, Portugal
- Applied nonlinear dynamical systems and chaos. "Celebrating Stephen Wiggins' 65th Birthday", July 1-5, 2024, Madrid, Spain
- Discrete Mathematics Conference 2024, July 3 to 5, 2024, Alcalá de Henares, Spain.
- Alhambra PDE Days, July 8-12, 2024, Granada, Spain.
- International Meeting of Numerical Semi-Group 2024 (IMNS2024), 8-July 2024, Jerez de la Frontera, Spain.
- Recent Developments in Harmonic Analysis, July 8-12, 2024, Malaga, Spain
- Combinatorial Designs and Codes (CODESCO 2024), July 8-12, 2024, Seville, Spain.
- Integrability and Moduli, conference in honor of León Takhtajan, from 8 to 12 of 2024, Lisbon, Portugal.
- 2nd International Workshop on Mathematics and Physical Sciences, July 11-12, 2024, Évora, Portugal.
- Regularity theory and free limit problems: from PDE to interfaces, July 22-26, 2024, Coimbra, Portugal.

September 2024

- 32nd International Autumn Workshop on Geometry and Physics, 2-5 September 2024, Coimbra, Portugal.

Who's Who in the Organization

The 9th European Congress of Mathematics has an Organizing Committee, a Scientific Committee, a Local Scientific Committee, a Satellite Committee, a Grants Committee and an Honorary Committee. Members of the **Organizing Committee**:



Juan González-Meneses, University of Seville (President)



Isabel Fernández, University of Seville (vice-president)



María Ángeles Rodríguez-Bellido, University of Seville (treasurer)



José Alfredo Cañizo, University of Granada



Mirta Castro Smirnova, University of Seville



Guillermo P. Curbera, University of Seville



Inmaculada Ventura Molina, University of Seville



Enrique D. Fernández-Nieto, University of Seville



Fernando Fernández Sánchez, University of Seville



Francisco Gancedo García, University of Seville



Clara Isabel Grima, University of Seville



Andrés Jiménez-Losada, University of Seville



Victoria Martín Márquez, University of Seville



María Luz Muñoz-Ruiz, University of Malaga



María Luz Puertas, University of Almería



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Link to follow the live broadcast of the 9ECM: <https://tv.us.es/>