



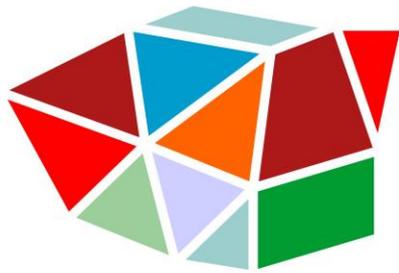
Spanish Research Institutes create The Strategic Network in Mathematics to boost research on science

- Five research institutes from País Vasco, Cataluña, Madrid and Andalucía, and three national academy networks form this structure.
- It was founded by the Ministry of Economics and Business with a budget of 120,000 EUR for two years, which will help to study the impact of mathematical research in science and economy.
- Besides promoting mathematical research, the Strategic Network in mathematics will focus on the relations of the subject with industry and society.

The Strategic Network in mathematics, (REM, in Spanish), founded by the Ministry of Economics and Business, arise with the objective of promoting mathematical research as well as its applications. “Research in mathematics plays a crucial role in technological progress and improving life conditions”, says Tomás Chacón, coordinator of the REM and head of the Institute of Mathematics at the University of Sevilla (REM), one of the organizations that forms the REM. The other institutions are the Barcelona Graduate School of Mathematics (BSGMath), the Centre de Recerca matemàtica (CRM), the Basque Center for Applied Mathematics (BCAM), the Institute of Mathematical Sciences (ICMAT), the Mathematical University Institutes Network (RedIUM), the Mathematics-Industry network (Math-in) and the Spanish Public Centres of Higher Education.

The REM was founded in July 2017 and will present two macrostudies next year. The first report will show the relevance of mathematical research in Spain during the last decade. The second is about the impact of mathematical technology transfer in economics and employment. The AFI company, a group specialised in international financial analysis, will make this second report.

These types of studies have already been conducted in various European countries like France, United Kingdom and Netherlands. They point out the significant effect of mathematics in employment, with contributions to GDP between 10 and 15%. The REM will present the results concerning the Spanish GDP in a few months. “It can be expected that the implementation of mathematical technology in the Spanish productive sector will produce and increase in GDP



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growth, reaching similar values to those achieved in these countries” said Peregrina Quintela, head of the Math-in Network and member of the REM Steering Committee. “Mathematics helps companies in a very relevant way in decision-making, improving production processes and resources optimization”, she says.

The REM aims to improve the strategic positioning of mathematics in Spain. This targets will be reached by promoting collaboration between the centers that make up the Network; optimizing the results and resources already available; using disclosure as a way to improve social perception of science; and promoting the internationalization of Spanish mathematics. To do this, the REM will count with a budget of 120.000 EUR until July 2019.

Transfer and dissemination to transform mathematics in a social good

In addition to the preparation of reports, the REM will organized various events to promote public-private partnership between scientists and industry, identifying emerging technologies and bussiness needs. One of them is called *Study Groups With Industry*, organized in collaboration with the Math-In Network. The 139 edition was held last July in Santiago, and the next editions, 147 and 150, will take place in 2019 in Santiago and Bilbao, respectively.

Other actions proposed by the Network are the *Modeling Weeks*. At these meetings, master or doctorate student groups, in collaboration with senior mathematicians, will spend a week working on projects based on industrial problems. In 2019, Madrid and Sevilla will host several national meetings of this kind. In addition, workshop on mathematical technology transfer will be organized in different congresses, mainly in those driven by scientific mathematical societies.

Also, to promote the internationalization of Spanish mathematics, the Network will support the European project proposals for research into the H2020 program, organizing a day of meeting between researchers and those responsible for these programs in the field of mathematics from different research centers. The REM will also support international research events, training and mathematics transfer, especially the International Congress on Industrial and Applied Mathematics ([ICIAM2019](#)). This congress, held every four years, is the most important worldwide and will be held in Valencia in July 2019.

Another REM purpose is to improve the perception of this science in society. The Network has a Disclosure Committee to disseminate the activities and results of mathematical research in Spain. “Mathematics is a cultural asset that should be shared with all citizens”, said David



Martin de Diego, ICMAT researcher and member of the Steering Committee of the REM. "Also, to have support from society, we must be able to convey the importance of our work", he continues. The most relevant news can be read on the [website of the REM](#) , as well as in the Twitter account: [@REMatematicas](#) .

The successful career of mathematics in Spain

Spanish mathematical research is in continuous progress. The scientific production has a great international impact, currently standing at the eighth world position by number of citations.

Collaboration has always been one of the pillars. Nowadays there are four national societies (Real Sociedad Matemática Española, Catalan Mathematical Society, Spanish Society of Applied Mathematics and Spanish Society of Operation Research), which joined in 2006, brought to Madrid the most important congress for the mathematical community (the [International Congress of Mathematicians](#)). After that, the Ministry of Education and Science founded a major national project (i-MATH), which was attended by the vast majority of Spanish research groups. The Mathematics-Industry Initiative ([Math-in](#)) was born in 2011 and achieved the opening of research groups to society and industry

The creation of the Strategic Network in Mathematics allows to continue the tradition of coordination and consensus on the key areas of scientific development and collaboration among researchers.