

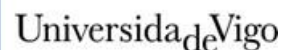


## Discourse of the President of the Spanish Network for Mathematics & Industry (ITMATI), Monday, July 22nd, 2019.

Dear Vice-Rector of Degrees of the Universidade de Santiago de Compostela,  
Dear President of the Technological Institute for Industrial Mathematics (ITMATI),  
Dear Dean of the Faculty of Mathematics of the Universidade de Santiago de Compostela,  
Dear Director of the Innovation Galician Agency of the Galician Government,  
Industrial representatives, Colleagues, Ladies and Gentlemen:

Today, it is my pleasure and my honor, as President of the Spanish Network for Mathematics & Industry (math-in) and also on behalf of the Organizing and Scientific Committees give you all a warm welcome to CTMI 2019, the first edition of the Conference on Transfer between Mathematics & Industry. Our thanks to the authorities who accompany me at this opening table.

Last week we had the opportunity to celebrate in Spain, at Valencia, the 9th International Congress on Industrial and Applied Mathematics (ICIAM 2019). With great success, it has provided a showcase for the most recent advances in industrial and applied mathematics. Within the ICIAM 2019, and organized by its Industrial Advisory Committee, an Industry Day was held to disseminate the current situation of industrial mathematics transfer around the world. We had the opportunity to visualize the role played by mathematical tools, and how they have facilitated the innovation in companies such as Bosch,





Electricité de France, Ferroglobe, Fujitsu, Gore & Associates, National Bank of Canada, and so on up to 14 companies.

Today we take a new step, launching the first edition of a conference exclusively dedicated to the transfer between mathematics and industry, CTMI 2019. This conference is born as a satellite event of ICIAM 2019, in collaboration with math-in's partner ITMATI. The objective is to turn it into a biannual forum that focuses its activity on 3 huge objectives:

- The first one oriented to facilitate the industrial innovation:
  - Providing a forum for industrial technicians to share alongside academic scientists problems of direct industrial relevance.
  - Spreading some success stories that should serve as inspiration to address new improvements and innovations;
  - Disseminating of available infrastructures helping to promote the transfer of mathematical knowledge to the productive sector and showing how they facilitate the linkage with the most suitable research groups for each specific case;
  - In this context a matchmaking event during CTMI 2019 has being programmed. This B2B event is co-organised with the Enterprise Europe Network – the biggest European Network that provides internationalisation and innovation support to European businesses.
- The focus of the second huge objective of CTMI is placed on the Academia itself:
  - Showing the extent in which collaboration with the industry has allowed the opening of new lines of research, its reflection in publications of international impact, and in the development of industrial doctoral and master theses;





- Showing knowledge transfer as an activity of capital importance to facilitate that the curricula for the new generations include the detected improvements and developed methodologies to match its training with the industry needs.

- Launching the first math-in awards for industrial MSc theses, to recognize the novelty, the technology generated, the development and use of new mathematical tools, as well as the benefits obtained by the company.

- The last and no less important huge objective is to convey to the society the role of mathematics in the world that surrounds us. For this reason, special mention must be made to the dissemination event "Data and mathematics. The promoters of the data driven companies", which will feature the participation of an invited speaker of this Conference. It has been programmed for tomorrow, Tuesday at 8 pm.

In short, CTMI 2019 tries to claim the knowledge transfer as a first level scientific activity.

The first study measuring the “mathematical intensity” of the economy in Spain, carried out by Afi (Analistas Financieros Internacionales) on behalf of the Strategic Network in Mathematics (REM), of which math-in is part, concludes that mathematics is already directly responsible for “more than one million employed – 6% of total employment – and for more than 10% of GDP (Gross domestic product)”. Figures corroborated by similar studies in France, Netherland and United Kingdom.

Mathematics is a “strategic” good that “accelerates economic growth,” and affects all sectors, in the different phases of the productive process: from the design, modeling, simulation and prototyping of products, to the optimization of productive and organizational processes and the analysis of data. These figures should make the





industries that have not yet incorporated mathematics into their entire structure reconsider their strategies. Because using advanced mathematical technologies will be the key to their survival and success against their competitors.

Therefore, collaboration between mathematicians and companies is a pressing need, and this has been understood by the national community with the launch in 2011 of the Spanish Network for Mathematics & Industry, and even also by the international mathematical community with the launch in 2013 of the European Service Network of Mathematics for Industry and Innovation (EU-MATHS-IN), a network of 17 networks of as many European countries, being math-in one of its founder members. These two initiatives, math-in and EU-MATHS-IN, born with the aims to leverage the impact of mathematics on innovations in key technologies by enhanced communication and information exchange between and among the involved stakeholders on a national and European level, respectively. In this collaborative European movement in the field of Industrial Mathematics the event that we are starting is framed, an event also co-organized with the math-in's institutional member ITMATI.

Now my hope is that CTMI 2019 has a big success and provide answers, open new questions, and establish new cooperation channels.

I wish to convey the grateful of Organizing Committee to the Scientific Committee for offering us so excellent program; also, thanks to the invited speakers; the organizers of special sessions; companies' representatives; chairs and to all participants for your contributions and attendance.





CTMI 2019 received support from the Strategic Network in Mathematics and the Thematic Network of Mathematics & Industry, both founded by the State Investigation Agency; from Universities of A Coruña, Santiago de Compostela and Vigo; from the European Network Enterprise; the Spanish Network for Mathematics & Industry; the Technological Institute for Industrial Mathematics; the Galician Network of Industrial Mathematics funded by the Xunta de Galicia; the Galician Department of Education, Universities and Professional Training, and from the Innovation Galician Agency. We would like to thank all of them; their support has contributed to the success of this event. Furthermore, I would like to thank the Faculty of Mathematics, which provided us with spaces for this conference.

Last but not least, I would like to thank the organizers of math-in and ITMATI, for their help at all time; remarkable is the excellent job of their staff in the organization of this event. Many thanks to Adriana, Alba, Ariana and Yago.

To conclude, my best wishes for all of you, enjoy of the planned program, and have a helpful and happy stay at Santiago.

Santiago de Compostela, July 22<sup>th</sup>, 2019.

