



III international conference

math museums and dissemination centers

Mathematics Awareness, Training, Resource & Information Exchange

2018 October 29-31

Cornellà de Llobregat - Barcelona

conference programme

<http://matrix2018.mmaca.cat>

@matrix3rd
#matrix2018



welcome!

We welcome you to the 2018 III MATRIX Conference, organized by the **MOMATH** - National Museum of Mathematics and the **MMACA** - Museu de Matemàtiques de Catalunya, who hosts the event, with the collaboration of EduCaixa / Obra Social La Caixa and the Museu Agbar de les Aigües.

overview

Aim of the conference is to share ideas, experiences and best practices in the area of maths outreach.

During the open plenary conferences and the inspiring conferences, we want to take up the issues outlined in the previous MATRIX editions, sharing ideas, experiences and good practices and dealing with hot topics regarding mathematics awareness.

The goal of the Conversation Groups (CG) is to reach good practises about some of the specific aspects of popularization of mathematics in exhibitions, workshops, fairs... On the other side, it can be very useful discuss and identify problems, shortcomings and weaknesses we can detect in our structure.

location & venues

The Conference takes place in Cornellà and Barcelona, Spain, at three venues:

-  **Museu de Matemàtiques de Catalunya - MMACA**
Palau Mercader - Parc Can Mercader, Cornellà de Llobregat.
-  **Museu Agbar de les Aigües**
Carretera de Sant Boi, 4-6, Cornellà de Llobregat.
-  **CosmoCaixa**
Carrer d'Isaac Newton, 26, Barcelona.

Shuttle service will be available between venues.

conference programme



DAY 1 Monday, October 29th

09:00-11:00

Museu Agbar de les Aigües



Registration
Fair / Poster Session

11:15-12:00

Museu Agbar de les Aigües



Welcome

12:00-13:30

Museu Agbar de les Aigües



Inspiring conference 1
“The Big Data phenomenon”

In this talk we will see how the convergence of three relevant trends (big data technologies, artificial intelligence and interactive interfaces) are opening a great amount opportunities in the new data economy, and are changing the way organizations act. Also, some time will be devoted to talk about the maths within the Big Data phenomenon as well as to point out some possibilities to bring them in an interactive space.

Speaker: Marc Torrent



13:45-16:00

Museu Agbar de les Aigües



Lunch
Fair / Poster Session
Visit to Museu Agbar

17:00-18:30

CosmoCaixa



Conversation Groups

CG1 - Museum / School

**CG2 - Mathematics and
children (0-8)**

**CG3 - Hands-on and
virtual hands-on**

19:00-20:30

CosmoCaixa



Open plenary conference 1
“Art about mathematics”

The main subject of my art is my fascination about mathematics. And to be more precise: my fascination about mathematical structures. Mathematical structures can be found all around us. We can see them everywhere in our daily life. The use of these structures as visual decoration is so common that we don't even see this as mathematics. But studying the properties of these structures and especially the relation between the different structures can bring up questions. Questions that can be the start of interesting artistic explorations.

Speaker: Rinus Roelofs



Talk language: English.
Simultaneous interpretation ENG-CAT.

conference programme



DAY 2 Tuesday, October 30th

09:00-10:15

Museu Agbar de les Aigües

Conversation Groups



CG4 - International Math Week

09:00-10:15

MMACA

Visit to MMACA

Conversation Groups



**CG5 - Museum /
Teachers training**

**CG6 - Museums and
scientific vocation**

10:15-10:30

Coffee Break

Shuttle service



10:45-12:00

Museu Agbar de les Aigües

Conversation Groups



CG7 - Statistics

**CG8 - Math / Museum
People Dissemination**

CG9 - In-E-motion

10:45-11:45

MMACA

Visit to MMACA



11:45

Shuttle service



12:00-13:30

Museu Agbar de les Aigües



Inspiring conference 2
**“Impact Evaluation in
science vocation”**

FECYT coordinates this panel that will present different Spanish initiatives to evaluate the impacts of non-formal science education and science outreach activities. Firstly, Gonzalo Remiro from FECYT will sum up their experience in evaluation of these kind of activities. Following, Digna Couso from CRECIM-UAB, will show the results of their investigation in the evaluation of non-formal science education activities at qualitative level. Finally, Sergio Marco from Everis will present their study “How to stimulate a scientific mind?” developed by FECYT, Obra Social “la Caixa” and Everis.

Speakers: Gonzalo Remiro
Digna Couso
Sergio Marco



conference programme



DAY 2 Tuesday, October 30th

13:45-16:00

Museu Agbar de les Aigües



Lunch

Fair / Poster Session

Visit to Museu Agbar

16:00 & 16:30

Shuttle service



16:30-18:30

CosmoCaixa



Visit to CosmoCaixa

Free time

19:00-20:30

CosmoCaixa



Open plenary conference 2
**“Catastrophes, diseases
and crimes: risk prediction
with mathematics”**

Can we predict the risk of a catastrophe? Still more: can we assess how risk is affected if we take certain measures to try to avoid it? Which individuals are at greater risk of suffering from some illness? Can we assess the effect of risk factors or protection factors in our health? And the risk of criminal recidivism? Can we predict it from the available information of a person who goes out of prison and is released? What is the profile of the repeat offender?

Mathematics help us answer all these questions and many more! Bayesian Networks, introduced in the 20s of the last century as a graphic mathematical model that describes the probabilistic knowledge of the relationships between variables that affect a certain nondeterministic phenomenon, have shown to be very useful for risk assessment and profiling, in areas as diverse as economics, medicine, the environment sciences and ecology, the accidents with nuclear waste, or criminology, among many others.

This talk will introduce this tool of Machine Learning, through examples, both academic and real, for a public not specialized but interested in science in general.

Speaker: Rosario Delgado



Talk language: Catalan.

Simultaneous interpretation CAT-ENG.

20:30-22:00

CosmoCaixa



Social dinner

22:30

Shuttle service to Cornellà



conference programme



DAY 3 Wednesday, October 31st

09:00-10:15

Museu Agbar de les Aigües



Conversation Groups

**CG10 - Museum / Reality
modelling**

CG11 - Research / Statistics

**CG12 - Support for
new museum**

9:00-10:15

MMACA



Visit to MMACA

10:15-10:30

Coffee Break

Shuttle service



10:45-12:00

Museu Agbar de les Aigües



Conversation Groups

CG13 - Sharing of exhibits ideas

CG14 - Emotion vs Fun:

A transforming museum

CG15 - Big or Great?

CG16 - Museum / University

12:15-13:30

Museu Agbar de les Aigües



**Inspiring conference 3
“Role-play of coordinates &
function dance”**

There are different types of resources to teach mathematics, in this workshop we propose a very special one where the students themselves and teachers become resources taking on the role of mathematical beings and behaving coherently with this role in the framework of small role-plays. In this conference we will be points in a coordinate system. To finish we have prepared a small surprise... we wait for you!

Speakers: Grup Cúbic + MMACA

13:30-13:45

Museu Agbar de les Aigües



Closing session

16:30-19:30

MMACA



Free visit to MMACA

**See you at the
IV MATRIX Conference!**

Organization



Sponsors & partners

