

## Interview with Christiane Rousseau

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Con motivo del Año Internacional de las Matemáticas del Planeta Tierra (MPE2013), la conferencia del ciclo de M4TEMOZIOA de este año fue impartida por la presidenta del MPE2013, Christiane Rousseau. Aprovechando esta ocasión, hemos realizado una entrevista a esta matemática con el objetivo de conocer de primera mano algunos aspectos del MPE2013.



Figura 1: Christiane Rousseau (C).

### What is the main objective of MPE 2013?

C: There are several main objectives, but certainly one is to advance research on topics related to planet Earth. We hope to have new researchers coming into the area. Maybe you would be interested in joining this research in a couple of years, when you go to Graduate School.

There is also an important aspect, which is to reach the public. It is necessary to explain to the public that mathematics can contribute to the understanding of our planet, -how is organized, how is inhabited by life. . . -, but also that mathematics can help understand the challenges our planet is facing. We would like that the teachers also bring the subject to the students, because when the kids ask “what is mathematics useful for?”, there are so many good answers just looking at the planet. And the fact that it is an international year is exciting for the classroom: we are not alone discussing on these matters, the whole planet is discussing on them.

### When organizing the activities of an international year like this, what kind of challenges and problems do you have to deal with?

C: The project of MPE2013 started four years ago and, at the beginning, we needed to convince people that we could achieve something. Hence, the first challenge was really to convince people that it was worth going into the project. It grew from a small seed, but now that the project has grown, it spreads by itself. Then the next challenge, because it is becoming big, is to manage to be able to answer all the partners.

What we try to do is to put everyone together, because the idea is that you do more if you share resources. For instance, you prepare some material for the schools and you make it public on the Internet, so that some countries can use it or decide to translate it. It is worth joining efforts at the level of planet Earth.

### Internationally did you have a good answer? Was everyone willing to help or did you have to convince a lot of mathematicians?

C: I could say both, there were people we needed to convince, but MPE2013 is large because there are people who are really committed to the project. I could not have done this alone. MPE2013 has no resources by itself, but there was a lot of enthusiasm, and many institutes and societies have worked very closely and put their resources in the venture. We have no budget, we function with partners, and the idea is that partners commit to organize MPE activities.

### Why is it important to celebrate MPE 2013 for mathematicians an non-mathematicians?

C: Our planet is facing important challenges, so it is important that the scientific community at least tries to help. We won't solve the problems by ourselves and we are not making the decisions, but at least we should try to understand what is happening. For example, we know that the climate is warming, but a lot of what will really happen is unknown. We know that some very populated regions will be flooded because the sea level is rising. But what will happen with the weather? Will the frequency of extreme events increase? How will the ecosystems react? There are many things that we do not know.

Another challenge is that the population of the world is growing while there is a limit to the population that the planet can feed with its resources, so we need to pay attention to the management of resources and these resources will change with the climate warming. As you see, there are a lot of uncertainties.