



# NCCR The Mathematics of Physics – SwissMAP

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## Brief portrait

Physicists use the language of mathematics to describe the processes that they observe. However, mathematics is more than a language. It is also a collection of complex, evolving ideas. At the threshold between theoretical physics and mathematics – where the mathematician's stringency and the physicist's intuition bear the greatest fruit – both sides benefit from closer cooperation. Physics wins when it can use mathematics to better describe nature and the cosmos; mathematics wins when the description of natural phenomena gives it a deeper understanding of the objects it uses.

The National Centre of Competence in Research (NCCR) "SwissMAP" aims to take this melding of minds to the next level and establish an internationally renowned "Swiss Institute for Advanced Research in Mathematics and Physics". The objective is to create a place where researchers can focus on fundamental questions, such as whether string theory really is suitable for describing all of the known force fields and interactions in a uniform "Theory of Everything".

In addition, the NCCR plans to attract both local and international young talent for training in its own master programme. It will also implement a specific programme to promote interest in mathematics and natural sciences among young high school students.

## Research network

