

# **GSA - Maths applied to structural analysis**

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## **Abstract**

While it is possible to design buildings without a computer, the scale and complexity of modern structures makes this almost impossible. Many of the basic techniques used in structural analysis are well established but their implementation changes as new techniques and technologies emerge to suit new problems. In this talk I will look at how the tools used by engineers to analyse structures make use of maths and how these have evolved to cope with ever larger and more complex problems. I will also look at some of the tools we are implementing that allow the engineer to have confidence in the analysis results and at some of the strategies we are investigating to further exploit repetition in the structure and parallelism in the solution.