Mathematical modelling

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CELEBRATING

50

The Institute of Mathematical Sciences

years of
CREATIVE SCIENCE
1962 – 2012

The unreasonable effectiveness of mathematics

The unreasonable effectiveness of mathematics
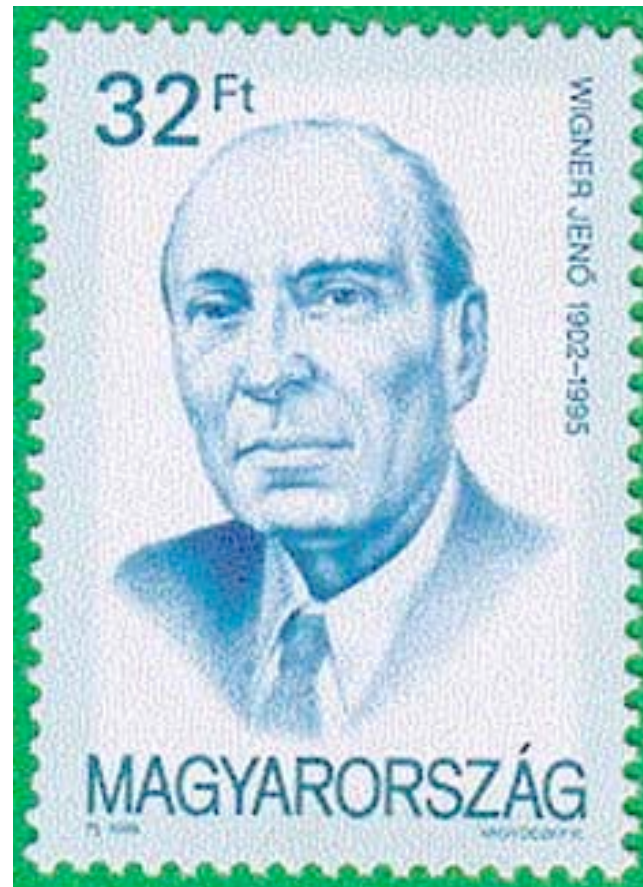
The unreasonable effectiveness of mathematics

"The miracle of the appropriateness of the language of mathematics for the formulation of the laws of physics is a wonderful gift which we neither understand nor deserve. We should be grateful for it and hope that it will remain valid in future research and that it will extend, for better or for worse, to our pleasure, even though perhaps also to our bafflement, to wide branches of learning." - E. P. Wigner
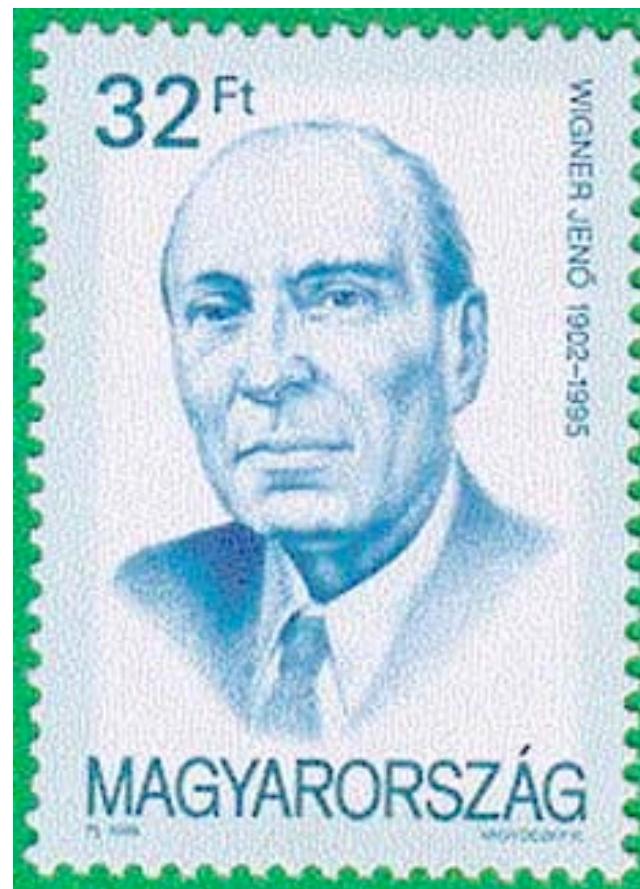
Mathematics as the language of maps of reality

"As far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality." - Einstein

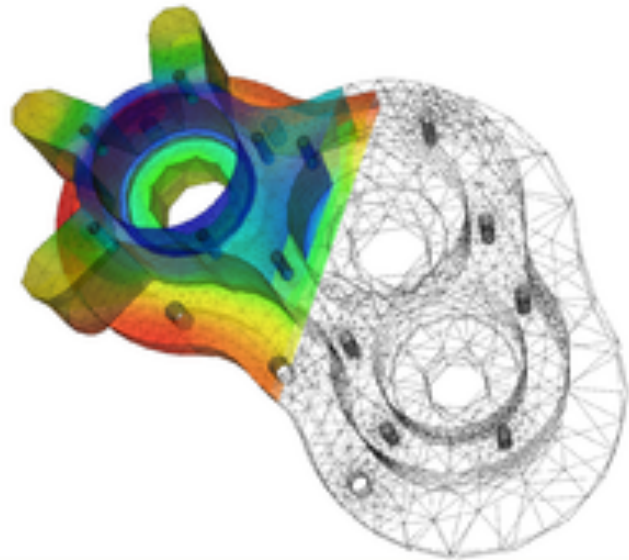# Mathematics for a complex world

Mathematics for a complex world

Danyang–Kunshan Grand Bridge
164.8 Km length
USD 8.5 billion expense
© AP
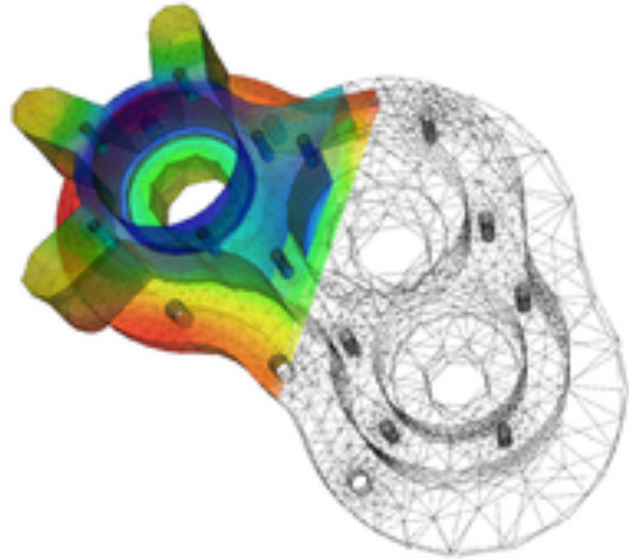
Mathematics for a complex world

Mathematics for a complex world

computational mechanics
numerical analysis
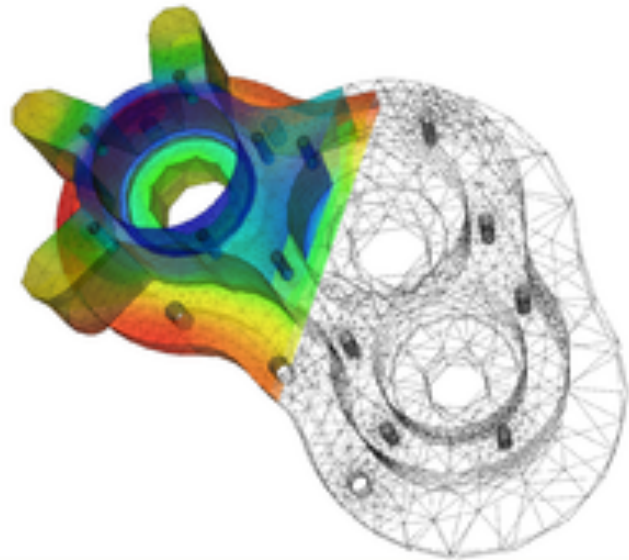
Mathematics for a complex world

computational mechanics
numerical analysis

vehicle routing
combinatorial optimization

Mathematics for a complex world
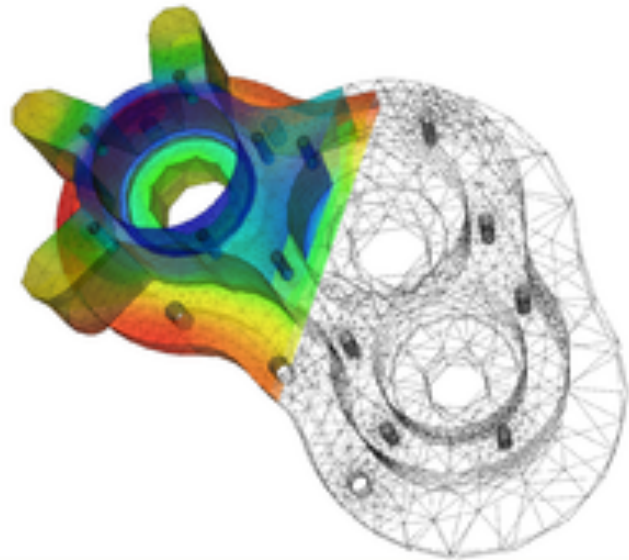

computational mechanics
numerical analysis

vehicle routing
combinatorial optimization

financial mathematics
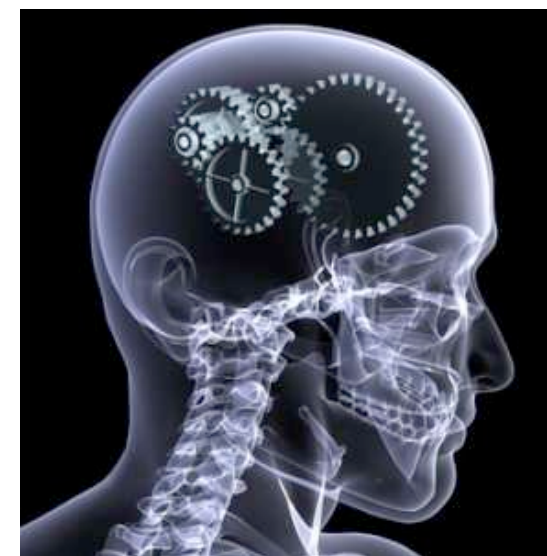stochastic processes

Mathematics for a complex world

computational mechanics
numerical analysis
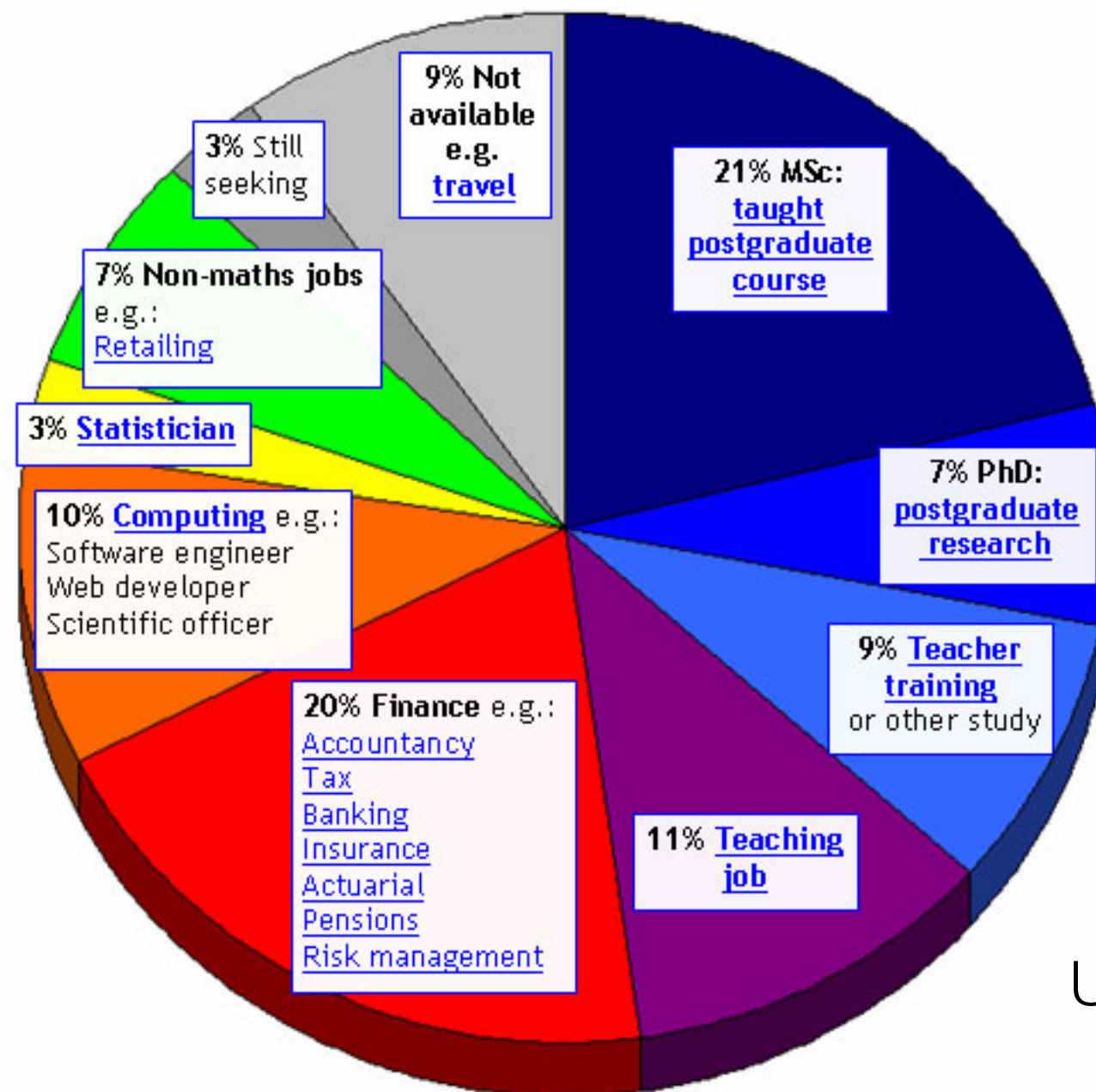
vehicle routing
combinatorial optimization

financial mathematics
stochastic processes

neuroscience
information theory

Mathematics helps solve real world problems

University of Kent
1999 - 2013

Take up the challenge?

Challenge accepted ? Interdisciplinary world.

Challenge accepted ? Interdisciplinary world.
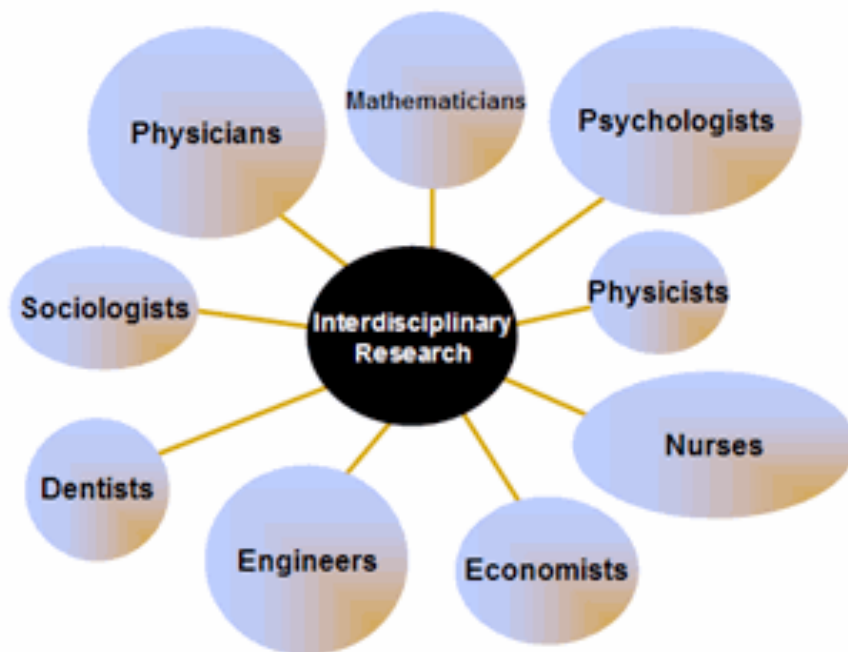
Challenge accepted ? Interdisciplinary world.

Research Teams of the Future

Physicians · Mathematicians · Psychologists · Sociologists · Interdisciplinary Research · Physicists · Dentists · Engineers · Economists · Nurses

OR

Challenge accepted ? Interdisciplinary world.

OR

Challenge accepted ? Interdisciplinary world.

OR

Caveat : chose carefully!

Thank you!