

# LMS Prospects in Mathematics

Geometry

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**Topology**

Differential  
Analysis

Dynamical  
Systems

Math  
physics

Riemannian  
Geometry

Differential  
topology

Geometric  
Analysis

Differential  
Geometry

Symplectic  
Geometry/  
Topology

Kähler  
geometry

Lie groups  
+  
algebraic  
groups

Algebraic  
Geometry

Complex  
Geometry

Arithmetic  
Geometry

Noncommutative  
Geometry

Geometric  
representation  
theory

Geometric  
group theory

Number  
theory

Algebra

Group  
theory

Moduli spaces arise in classification problems in geometry: e.g. classify compact Riemann surfaces up to biholomorphism.

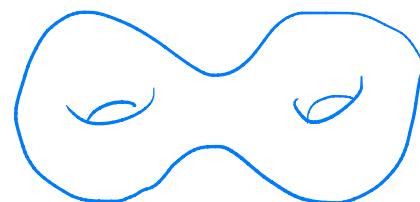
Genus  $g$



$$g=0$$



$$g=1$$



$$g=2$$

Except when  $g=0$ , this is not enough for identification

Moduli spaces  $M_g$

$$\dim_{\mathbb{C}} M_0 = 0, \quad \dim_{\mathbb{C}} M_1 = 1$$

$$\dim_{\mathbb{C}} M_g = 3g - 3 \text{ if } g \geq 2$$

A hand-drawn diagram showing the locations of various UK universities in a triangular shape. The vertices are Aberdeen, St Andrews, and Edinburgh at the top; Glasgow at the bottom-left; and London at the bottom-right. The interior contains many other university names.

Aberdeen  
St Andrew's  
Edinburgh  
Glasgow  
Newcastle  
Durham  
Lancaster  
York  
Leeds  
Liverpool  
Manchester  
Sheffield  
Nottingham  
Loughborough  
Swansea  
Cardiff  
Birmingham  
WARRICK  
CAMBRIDGE  
Essex  
OXFORD  
Bristol  
Bath  
Surrey  
LONDON  
Exeter  
Southampton  
Kent

# LSGNT

## London School of Geometry & Number Theory CDT

Imperial,  
UCL, KCL