# Jack Oliver Southgate

School of Mathematics and Statistics
University of St Andrews
St Andrews, KY16 9SS
jos3@st-andrews.ac.uk

**ABOUT**

I am currently pursuing a PhD in rigidity theory under Louis Theran. Broadly, my interest lie in the intersection between algebra, combinatorics and geometry. I am also interested in algebraic and tropical geometry.

**EDUCATION**

*PhD Mathematics (ongoing)*   2020-
University of St Andrews
*Topics in Area Rigidity* (supervised by Louis Theran)

*MSci Mathematics*   2016-20
University of Bristol
First Class
Undergraduate theses:
- *Intersections on Toric Varieties* (supervised by Farhad Babaee)   2019-20
- *A Geometric Group Theory Approach to the Bieberbach Theorem* (supervised by Mark Hagen)   2018-19

**EVENTS ATTENDED**

*LMS Research School on Knowledge Exchange on Rigidity, Flexibility and Applications*   Jul. 2022
Lancaster University

*$29^{th}$ British Combinatorial Conference*   Jul. 2022
Presented *Global Area Rigidity of Generic Hypergraph Frameworks*
Lancaster University

*Thematic Program on Geometric Constraint Systems, Framework Rigidity, and Distance Geometry*   Winter-Spring 2021
Fields Institute, University of Toronto
Programs attended:
- *Winter School on Geometric Constraint Systems*   Jan. 2021
- *Workshop on Progress and Open Problems in Rigidity Theory*   Feb. 2021
- *Graduate Course on Combinatorial and Geometric Rigidity*
- *Graduate Course on Real algebraic and Distance geometry in Discrete Structures and Kinematics*

*Toric Arrangements in Bristol*   Sept. 2019
University of Bristol

**TEACHING**

- *MT1003 Pure and Applied Mathematics*   2020-
- *MT1002 Mathematics*   2021-

Graduate Teaching Assistant
University of St Andrews

**OTHER**

- *Pure Postgraduate Research Day*  2022
  Organiser
- *Graduate Course on Combinatorial and Geometric Rigidity*  2021
  Co-note Taker