

# Antoine Pinardin

✉ antoine.pinardin@ed.ac.uk

🌐 <http://www.antoinepinardin.com>

## Research Interests

Algebraic geometry, with a particular focus on birational geometry, especially in a  $G$ -equivariant setting. Subgroups of Cremona and  $G$ -equivariant Minimal Model Program. K-stability of Fano varieties.

## Education

- Oct 2021 – Sep 2025    📖 **Ph.D. in Algebraic Geometry**, University of Edinburgh.  
Thesis title: *Equivariant birational geometry of rational varieties for finite group actions*.<sup>[1]</sup>  
Supervisor : Ivan Cheltsov
- Sep 2020 – Sep 2021    📖 **M.Sc. Fundamental Mathematics**, University of Paris.  
Thesis title: *GIT and hyperkähler structures of the Hilbert Schemes of points on surfaces*.  
Supervisor : Daniele Faenzi
- Sep 2019 – Sep 2020    📖 **M.Sc. Applied Algebra**, University of Paris-Saclay.  
Thesis title: *Determinants and Resultants in Higher Dimension*.  
Supervisors : Daniele Faenzi and Ronan Terpereau

## Publications



### Articles

- 1 A. Pinardin, “Equivariant birational geometry of rational varieties for finite group actions,” Ph.D. dissertation, University of Edinburgh, 2025. 🔗 URL: [https://www.antoinepinardin.com/Equivariant\\_geometry\\_of\\_rational\\_varieties\\_for\\_finite\\_group\\_actions.pdf](https://www.antoinepinardin.com/Equivariant_geometry_of_rational_varieties_for_finite_group_actions.pdf).
- 2 A. Pinardin and Z. Zhang, “ $\mathcal{A}_5$ -equivariant geometry of quadric threefolds,” 2025. arXiv: 2508.11496 [math.AG]. 🔗 URL: <https://arxiv.org/abs/2508.11496>.
- 3 A. Pinardin, A. Sarikyan, and E. Yasinsky, “Linearization problem for finite subgroups of the plane cremona group,” 2024. arXiv: 2412.12022 [math.AG]. 🔗 URL: <https://arxiv.org/abs/2412.12022>.
- 4 I. Cheltsov, O. Li, S. Ma’u, and A. Pinardin, “K-stability and space sextic curves of genus three,” 2024. arXiv: 2404.07803 [math.AG]. 🔗 URL: <https://arxiv.org/abs/2404.07803>.
- 5 A. Pinardin, “G-solid rational surfaces,” *European Journal of Mathematics*, vol. 10, no. 2, pp. 1–23, 2024. 🔗 URL: <https://link.springer.com/article/10.1007/s40879-024-00747-z>.


## Research Visits

- Mar-Jun 2025    📖 **CIRM, Luminy, France**.  
Invited by Prof. Frédéric Mangolte.
- Jan-Feb 2025    📖 **Simons foundation, New York City**  
Invited for two months by Prof. Yuri Tschinkel.
- Nov 2024    📖 **New York University, New York City**  
Invited for a week by Prof. Yuri Tschinkel.
- Nov-Dec 2023    📖 **University of Aix-Marseille, France**.  
Invited for a week by Prof. Frédéric Mangolte.



## Research Visits (continued)

- Oct 2023     **Simons foundation, New York City.**  
Invited for a week by Prof. Yuri Tschinkel.
- Dec 2022     **University of Auckland, New Zealand.**  
Invited for three weeks by Dr. Sione Ma'u.
















## Events I organised

- Oct 2024     **ICMS conference on Birational Geometry and Number Theory**  
An international conference at the intersection of Number theory and Birational Geometry.  
<https://www.icms.org.uk/workshops/2024/birational-geometry-and-number-theory>




## Grants and Awards

- Mar 2024     **ICMS grant.**  
Awarded by the International Center for Mathematical Research for the organisation of an international conference.
- Jun 2024     **[Sport] Blues Award of the University of Edinburgh.**  
Highest award for an athlete from the University of Edinburgh.

## Invited Talks

- May 2025     *On non-linearisability of icosadral group actions on quadric threefolds.* Conference on Structures and Symmetries in Algebraic geometry, Kraków, Poland.
- May 2025     *On non-linearisability of icosadral group actions on quadric threefolds.* Conference on Cremona groups, CIRM, Marseille, France.
- Apr 2025     *Linearization problem for finite subgroups of the plane Cremona group.* Department seminar, London Institute for Mathematical Sciences, United Kingdom.
- Apr 2025     *Linearization problem for finite subgroups of the plane Cremona group.* JAWZ seminar, University of Warwick, United Kingdom.
- Apr 2025     *Linearization problem for finite subgroups of the plane Cremona group.* Department seminar, University of Sheffield, United Kingdom.
- Apr 2025     *G-rational varieties.* Department seminar, UBE, France.
- Apr 2025     *Linearization problem for finite subgroups of the plane Cremona group.* BENDZ seminar, EPFL, Switzerland.
- Apr 2025     *G-solid varieties.* Department seminar, University of Basel, Switzerland.
- Mar 2025     *K-stability and space sextic curves of genus three.* Winter school on K-stability, CIRM, France.
- Feb 2025     *Linearization problem for finite subgroups of the plane Cremona group.* Edge seminar, University of Edinburgh.
- Jan 2025     *Linearization problem for finite subgroups of the plane Cremona group.* Department seminar, New York University.
- Nov 2025     *Linearization problem for finite subgroups of the plane Cremona group.* Department seminar, University of Liverpool.
- Sep 2024     *Linearization problem for finite subgroups of the plane Cremona group.* Conference on Fano varieties, Cetraro, Italy.
- Jun 2024     *G-Solid rational surfaces.* Hodge club seminar, University of Edinburgh, United Kingdom.
- Feb 2024     *G-Solid rational surfaces.* CALF seminar, University of Birmingham, United Kingdom.

## Invited Talks (continued)

- Jan 2024     *G-Solid rational surfaces*. Swiss-french workshop on algebraic geometry, Charmey, Switzerland.
- Dec 2023     *G-Solid rational surfaces*. Department seminar, University of Lille, France.
-  *G-Solid rational surfaces*. Department seminar. Department seminar, Aix-Marseille University, France.

## Attended Conferences

- Jun 2025     Structures and Symmetries in Algebraic Geometry, Kraków, Poland.
-  Real Algebraic Geometry and Birational Geometry, CIRM, Marseille, France.
- May 2025     Geometry and Topology in Gökova, Akyaka, Turkey.
-  Cremona groups, CIRM, Marseille, France.
- Apr 2025     BENDZ seminar, EPFL, Switzerland.
- Mar 2025     Winter school on K-Stability, CIRM, Marseille, France.
- Jan 2025     Swiss-French workshop in Algebraic Geometry, Charmey, Switzerland.
- Dec 2024     Algebraic Geometry, SMRI Institute, University of Sydney, Sydney, Australia.
-  Algebraic Geometry, Matrix Institute, University of Melbourne, Melbourne, Australia.
- Oct 2024     Birational Geometry and Number Theory, ICMS, Edinburgh, Scotland. Organiser of the event.
- Sep 2024     Conference on Fano Varieties in Cetraro, Italia.
- Jun 2024     BRIDGES meeting on special geometries and stability, Cargèse, France.
- May 2024     Conference on K-stability and moment maps, University of Cambridge, Cambridge, England.
-  Conference on Algebraic Transformation Groups, Ascona, Switzerland.
- Feb 2024     Swiss-French workshop in Algebraic Geometry, Charmey, Switzerland.
- Dec 2023     Seminar on singularities in Algebraic Geometry, University of Nottingham, Nottingham, England.
- Oct 2023     Conference on higher dimensional geometry, Simons Foundation, New York, New York.
- Sep 2023     Conference on K-stability, University of Oxford, Oxford, England.
- Jul 2023     GAEL 2023, University of Warwick, Coventry, England.
- Apr 2023     Conference on Vertex Algebras, Isle of Skye, Scotland.
- Jan 2023     Swiss-French workshop in Algebraic Geometry, Charmey, Switzerland.
-  Singularities in Trento, University of Trento, Trento, Italy.
- Nov 2022     EDGE 2022, ICMS, Edinburgh, Scotland.
- Aug 2022     Conference on K-Stability, University of Stony Brook, Stony Brook, New York.
- Jun 2022     Conference on Birational Geometry, EPFL, Lausanne, Switzerland.
- May 2022     Spring School of Algebraic Geometry, Université de Bourgogne-Franche-Comté, Dijon, France.
- Dec 2021     EDGE 2021, University of Edinburgh, Edinburgh, Scotland.

## Employment Record

- Jan. 2022 – . . . . .  **Tutor in Mathematics for Undergraduate, M.Sc., and Ph.D. students (SMSTC).** University of Edinburgh.

## Teaching

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- **Algebras and Representation theory.**  
Workshop organiser and Tutor, spring 2023.  
<https://smstc.ac.uk/modules/representation-theory>
  
- **Numerical Linear Algebra.**  
Tutor, autumn 2022, 2023 and 2024  
<http://www.drps.ed.ac.uk/17-18/dpt/cxmath10098.htm>
  
- **Geometry.**  
Tutor, autumn 2023.  
<http://www.drps.ed.ac.uk/15-16/dpt/cxmath10074.htm>
  
- **Group Theory.**  
Tutor, autumn 2023.  
<http://www-test.drps.ed.ac.uk/14-15/dpt/cxmath10079.htm>
  
- **Honours Algebra.**  
Tutor, spring 2022 and spring 2023  
<http://www.drps.ed.ac.uk/16-17/dpt/cxmath10069.htm>
  
- **Honours Complex Variables.**  
Tutor, spring 2022 and 2023  
<http://www.drps.ed.ac.uk/16-17/dpt/cxmath10069.htm>
  
- **Accelerated Algebra and Calculus.**  
Tutor, autumn 2022  
<http://www-test.drps.ed.ac.uk/16-17/dpt/cxmath08062.htm>
  
- **Introduction to Linear Algebra.**  
Tutor, autumn 2022  
<http://www.drps.ed.ac.uk/19-20/dpt/cxmath08057.htm>
  
- **Calculus and its Applications.**  
Tutor, spring 2022  
<http://www.drps.ed.ac.uk/16-17/dpt/cxmath08058.htm>
  
- **Proofs and Problem Solving.**  
Tutor, spring 2023  
<http://www.drps.ed.ac.uk/17-18/dpt/cxmath08059.htm>

## Skills

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| Languages | ■ Fluent in French and English.  |
| Coding    | ■ SageMath, Magma, GAP, L <sup>A</sup> T <sub>E</sub> X, Python, C, Java, HTML, css, Javascript. |
| Karate    | ■ British Champion, second place at the french cup, nine times national university champion.     |

## References

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- **Prof. Ivan Cheltsov**   [i.cheltsov@ed.ac.uk](mailto:i.cheltsov@ed.ac.uk)
- **Prof. Yuri Tschinkel**   [tschinkel@cims.nyu.edu](mailto:tschinkel@cims.nyu.edu)
- **Prof. Susanna Zimmermann**   [susanna.zimmermann@unibas.ch](mailto:susanna.zimmermann@unibas.ch)
- **Prof. Frédéric Mangolte**   [frederic.mangolte@univ-amu.fr](mailto:frederic.mangolte@univ-amu.fr)