

FRANCESCA BALESTRIERI, MA (CANTAB), MSc (OXON), DPhil (OXON)

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Address: IST Austria, Am Campus 1, 3400 Klosterneuburg, Austria
Nationality: Italian

EMPLOYMENT

- **Marie Curie Fellow, IST Austria** 2019–2021
Mentor: Prof Tim Browning
- **Post-Doc Fellow, Max-Planck-Institut für Mathematik** 2017–2019
Mentor: Prof Yuri I Manin
- **Stipendiary Lecturer in Pure Mathematics, Pembroke College, University of Oxford** 2016–2017
- **Freelance Editor, Oxford University Press** 2015–2016

EDUCATION

- **DPhil in Number Theory, University of Oxford** 2013–2017
Research Interests: Number Theory, Arithmetic Geometry
Supervisor: Prof E Victor Flynn
- **MSc Mathematics and the Foundations of Computer Science, University of Oxford** 2012–2013
Result: Distinction
- **BA (Hons) Mathematical Tripos, University of Cambridge** 2009–2012
(Upgraded to MA in 2016)
Result: Class I (each year)

ACADEMIC VISITS

- **Institut Henri Poincaré, Paris, France** Apr–Jul 2019
Participating in the thematic trimester *À la redécouverte des points rationnels*
- **Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany** Dec 2018
Collaborating with Dr Valentijn Karemaker
- **University of Washington, Seattle, USA** Sep–Dec 2015
Visiting Prof Bianca Viray

PREPRINTS AND PUBLISHED ARTICLES

- **Arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces**
(with R. Newton)
IMRN, rny303 (2019).
- **Brauer-Manin obstruction and families of generalised Châtelet surfaces over number fields**
International Journal of Number Theory 15 no. 2 (2019), 289–308.
- **Elliptic fibrations on covers of the elliptic modular surface of level 5**
(with J. Desjardins, A. Garbagnati, C. Maistret, C. Salgado)
WINE II: Contributions to Number Theory and Arithmetic Geometry, AWM Springer Series 11 (2018), 159–197.
- **Iterating the algebraic étale-Brauer set**
Journal of Number Theory 182 (2018), 284–295
- **Obstruction sets and extensions of groups**
Acta Arithmetica 173 (2016), 151–181.
- **Insufficiency of the Brauer-Manin obstruction for rational points on Enriques surfaces**
(with J. Berg, M. Manes, J. Park, B. Viray)
Directions in Number Theory: Proceedings of the 2014 WIN3 Workshop, AWM Springer Series 3 (2016), 1–32.

BOOKS

- F. Balestrieri, L. Balestrieri, **Guerra Digitale** (2019) Luiss University Press. (In Italian.)

FELLOWSHIPS, SCHOLARSHIPS, AND PRIZES

- **Marie Skłodowska-Curie Actions Individual Fellowship**, European Commission (€174000) 2019–2021
- **IST Austria Fellowship**, IST Austria (Declined) 2019–2021
- **Post-Doctoral Fellowship**, Max-Planck-Institut für Mathematik 2017–2019
- **EPSRC Studentship, fees & maintenance**, Mathematical Institute, University of Oxford 2013–2017

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| • Jex-Blake Scholarship , LMH, University of Oxford | 2013–2014 |
| • Academic Development Grant (Ginsberg Fund) , LMH, University of Oxford | 2013 |
| • Anne Jemima Clough Prize , Newnham College, University of Cambridge | 2012 |
| • Chadburn Third-Year Scholarship , Newnham College, University of Cambridge | 2011–2012 |
| • Marjorie Stewart Tunnicliffe Prize , Newnham College, University of Cambridge | 2011 |
| • Anne Jemima Clough Prize , Newnham College, University of Cambridge | 2011 |
| • Mathilde Blind Second-Year Scholarship , Newnham College, University of Cambridge | 2010–2011 |
| • Jane Dora Archibald Prize , Newnham College, University of Cambridge | 2010 |

TEACHING (UNIVERSITY OF OXFORD)

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| • Stipendiary Lectureship , Pembroke College. | 2016–2017 |
| M1 Groups and group actions . First year course. | Trinity Term 2017 |
| A.SO Group Theory . Second year course. | Trinity Term 2017 |
| A4 Integration . Second year course. | Hilary Term 2017 |
| M1 Groups and group actions . First year course. | Hilary Term 2017 |
| M2 Analysis II: Continuity and Differentiability . First year course. | Hilary Term 2017 |
| A0 Linear Algebra . Second year course. | Michaelmas Term 2016 |
| A2 Metric Spaces and Complex Analysis . Second year course. | Michaelmas Term 2016 |
| M2 Analysis I: Sequences and Series . First year course. | Michaelmas Term 2016 |
| • A.SO Graph Theory , Tutor for New College. Second year course. | Trinity Term 2016 |
| • C2.6 Introduction to Schemes , Consultation Sessions Tutor. | Trinity Term 2016 |
| • C2.6 Introduction to Schemes , Class Tutor. Fourth year/graduate course. | Hilary Term 2016 |
| • A.SO Graph Theory , Tutor for New College. Second year course. | Trinity Term 2015 |
| • B3.4 Algebraic Number Theory , Consultation Sessions Tutor. | Trinity Term 2015 |
| • C3.7 Elliptic Curves , Consultation Sessions Tutor (2 Sets). | Trinity Term 2015 |
| • B3.4 Algebraic Number Theory , Class Tutor. Third year course. | Hilary Term 2015 |
| • C3.7 Elliptic Curves , Class Tutor (2 Sets). Fourth year/graduate course. | Hilary Term 2015 |
| • C3.4 Algebraic Geometry , Class Tutor. Fourth year/graduate course. | Michaelmas Term 2014 |
| • B3.1 Galois Theory , TA (2 sets). Third year course. | Michaelmas Term 2014 |
| • B9b Algebraic Number Theory , TA. Third year course. | Hilary Term 2014 |
| • C9.1b Elliptic Curves , TA. Fourth year/graduate course. | Hilary Term 2014 |
| • C9.2a Analytic Number Theory , TA. Fourth year/graduate course. | Michaelmas Term 2013 |

TEACHING (UNIVERSITY OF WASHINGTON)

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| • Algebraic Number Theory , 2 lectures (substituting Prof Viray). Graduate course. | Fall Quarter 2015 |
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COMMITTEES AND SERVICE

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| • Reviewer for the Mathematical Reviews of the AMS. | 2017– |
| • Peer-reviewer for the Tunisian Journal of Mathematics and for Advances in Mathematics. | 2017– |
| • Organiser of the Junior Number Theory seminar, University of Oxford. | 2015–2016 |
| • Undergraduate admissions interviewer at New College, University of Oxford. | Michaelmas Term 2014 |
| • Organiser of the Young Researchers in Mathematics 2015 conference, University of Oxford. | 2013–2015 |
| • Undergraduate admissions interviewer at New College, University of Oxford. | Michaelmas Term 2013 |
| • Facilitator for the Good Practices Steering Group, Mathematical Institute, University of Oxford. | 2013–2017 |

TALKS

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| • <i>On the arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces</i> “Reinventing rational points” seminar, Institut Henri Poincaré, France. | 25 Apr 2019 |
| • <i>On the arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces</i> Dutch Mathematical Congress 2019, Veldhoven, Netherlands. | 23 Apr 2019 |
| • <i>On the arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces</i> Number Theory Seminar, University of Pennsylvania, USA. | 5 Apr 2019 |
| • <i>On the arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces</i> Intercity Number Theory Seminar, Utrecht University, Netherlands. | 15 Mar 2019 |
| • <i>On the arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces</i> Groups, Arithmetic and Algebraic Geometry Seminar, EPFL, Switzerland. | 14 Nov 2018 |
| • <i>On the arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces</i> Number Theory Seminar, IST Austria, Austria. | 18 Sep 2018 |

- *On the arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces* 4 Sep 2018
CAMS/MATH Seminar, American University of Beirut, Lebanon.
- *On the arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces* 2 Jul 2018
Rational Points on Schiermonnikoog, Netherlands.
- *Arithmetic of rational points and 0-cycles of degree 1 on Kummer varieties* 28 Mar 2018
Number Theory Lunch Seminar, Max-Planck-Institut für Mathematik, Bonn, Germany.
- *Categorie: un cambiamento di paradigma in matematica* (in Italian) 7 Dec 2017
Seminario di Logica, Università Ca' Foscari, Venice, Italy.
- *Studying arithmetic properties of rational points on varieties* 26 Oct 2017
MPI-Oberseminar, Max-Planck-Institut für Mathematik, Bonn, Germany.
- *Iterating the algebraic étale-Brauer obstruction* 19 May 2017
Number Theory Seminar, University of Cambridge, UK.
- *When do rational points on varieties exist?* 15 Mar 2017
Pure Mathematics Seminar, University of Reading, UK.
- *Iterating the algebraic étale-Brauer obstruction* 17 Feb 2017
RTG Lectures in Arithmetic Geometry at Rice, Rice University, Houston, USA.
- *Iterare l'insieme di étale-Brauer algebrico* (in Italian) 22 Dec 2016
Algebraic Geometry and Representation Theory in Rome, Università Sapienza, Rome, Italy.
- *Iterating the algebraic étale-Brauer obstruction* 27 Oct 2016
Number Theory Seminar, University of Manchester, UK.
- *Iterating the algebraic étale-Brauer obstruction* 12 Oct 2016
Linfoot seminar, Bristol University, UK.
- *Obstructions to the existence of rational points on Enriques surfaces* 13 Jun 2016
GAEL XXIV, Nesin Mathematics Village, Turkey.
- *Iterating the algebraic étale-Brauer obstruction* 23 May 2016
Leibniz Universität Hannover, Hannover, Germany.
- *Modular methods for Diophantine equations* 25 Apr 2016
Junior Number Theory seminar, University of Oxford, UK.
- *Iterating the algebraic étale-Brauer obstruction* 25 Jan 2016
Junior Number Theory seminar, University of Oxford, UK.
- *Iterating the algebraic étale-Brauer obstruction* 17 Nov 2015
AGNT Seminar, Rice University, Houston, USA.
- *Belyi's Theorem* 12 Nov 2015
Dessins d'enfants seminar, University of Washington, Seattle, USA.
- *Iterating the algebraic étale-Brauer obstruction* 10 Nov 2015
UW Number Theory Seminar, University of Washington, Seattle, USA.
- *Obstructions: a dictionary* 19 Aug 2015
Young Researchers in Mathematics 2015, University of Oxford, UK.
- *Insufficiency of the Brauer-Manin obstruction for Enriques surfaces* 13 Apr 2015
TCC Number Theory day, Imperial College, London, UK.
- *Insuffisance de l'obstruction de Brauer-Manin pour les surfaces d'Enriques* (in French) 10 Apr 2015
Séminaire "Variétés Rationnelles", Institut Henri Poincaré, Paris, France.
- *Obstruction sets and extensions of groups* 9 Feb 2015
Junior Number Theory seminar, University of Oxford, UK.
- *Ranks of elliptic curves* 24 Nov 2014
Junior Number Theory seminar, University of Oxford, UK.
- *Obstructions!* 2 Jul 2014
Young Researchers in Mathematics 2014, University of Warwick, UK.
- *Obstructions to the Hasse principle* 25 Nov 2013
Junior Number Theory seminar, University of Oxford, UK.

CONFERENCES AND WORKSHOPS

- **Rational Points 2019** 14–20 Jul 2019
Franken-Akademie Schloss Schney, Schney, Germany.
- **Dutch Mathematical Congress** 23–24 Apr 2019
Veldhoven, Netherlands.
- **À la redécouverte des points rationnels** 15 Apr –12 Jul 2019
Institut Henri Poincaré, Paris, France.
- **Rational Points on Schiermonnikoog** 2 – 6 Jul 2018

- Schiermonnikoog, Netherlands.
- **XIV Giornate di Geometria Algebrica ed Argomenti Correlati** 29 May – 1 Jun 2018
Università di Genova, Genova, Italy.
 - **Rational Points 2017** 2–8 Jul 2017
Franken-Akademie Schloss Schney, Schney, Germany.
 - **RTG Lectures in Arithmetic Geometry at Rice** 17–19 Feb 2017
Rice University, Houston, USA.
 - **Algebraic Geometry and Representation Theory in Rome** 22 Dec 2016
Università Sapienza, Rome, Italy.
 - **Women In Numbers Europe 2** 25–30 Sep 2016
Lorentz Center, Leiden, Netherlands.
 - **GAeL XXIV** 13–17 Jun 2016
Nesin Mathematics Village, Turkey.
 - **Fundamental groups in Arithmetic Geometry** 26 May – 3 Jun 2016
Institut Henri Poincaré, Paris, France.
 - **Explicit Methods in Number Theory (in honour of John Cremona’s 60th Birthday)** 4–8 Apr 2016
University of Warwick, UK.
 - **Sage Days 71: Explicit p-adic methods in number theory** 20–24 Mar 2016
University of Oxford, UK.
 - **Oxford Cryptography Day** 17 Mar 2016
University of Oxford, UK.
 - **Western Algebraic Geometry Symposium** 17–18 Oct 2015
University of Washington, Seattle, USA.
 - **LMS-CMI summer school on Diophantine Equations** 15–19 Sep 2015
Wales, UK.
 - **Young Researchers in Mathematics 2015** 17–20 Aug 2015
University of Oxford, UK.
 - **Rational Points 2015** 28 Jun – 5 Jul 2015
Franken-Akademie Schloss Schney, Schney, Germany.
 - **Rational Points/ Pontos Racionais** 25–29 May 2015
IMPA, Rio de Janeiro, Brazil.
 - **Elliptic Curves, Modular Forms and Iwasawa Theory** 25–27 Mar 2015
In honour of J Coates’ 70th Birthday, University of Cambridge, UK.
 - **Arizona Winter School 2015: Arithmetic and Higher-Dimensional Varieties** 14–18 Mar 2015
The Southwest Center for Arithmetic Geometry, University of Arizona, USA.
 - **Algebraic Geometry and Representation Theory in Rome** 18–19 Dec 2014
Università Roma 3, Rome, Italy.
 - **Comptage d’objets arithmétiques (rangs des courbes elliptiques)** 10–14 Nov 2014
CRM, Université de Montréal, Canada.
 - **Analytic Number Theory** 29 Sep – 3 Oct 2014
Clay Research Conference and Workshops, University of Oxford, UK.
 - **Bounded Gaps Between Primes** 22–26 Sep 2014
LMS-CMI Research School, University of Oxford, UK.
 - **Arithmetic of Hyperelliptic Curves** 25 Aug – 5 Sep 2014
NATO Advanced Study Institute, Ohrid, FYROM.
 - **Young Researchers in Mathematics 2014** 30 Jun – 3 Jul 2014
University of Warwick, UK.
 - **Women in Numbers 3** 20–25 Apr 2014
Banff International Research Station, Canada.
 - **Model theory and its interactions with NT and arithmetic geometry** 10–11 Feb 2014
MSRI, University of California, Berkeley, USA.
 - **Introductory Workshop: Model Theory, Arithmetic Geometry and NT** 3–7 Feb 2014
MSRI, University of California, Berkeley, USA.
 - **Number Theory and Physics** 29 Sep – 4 Oct 2013
Clay Research Conference and Workshops, University of Oxford, UK.
 - **Rational Points - Geometric, Analytic and Explicit Approaches** 27–31 May 2013
EPSRC Warwick Number Theory Symposium, University of Warwick, UK.
 - **Women in Mathematics** 18–19 Apr 2013
Organised by the LMS. Newton Institute, University of Cambridge, UK.

- **Foundations of Mathematics: What are they and what are they for?**
Department of Philosophy, University of Cambridge, UK.

10–12 Jul 2012

OTHER RESEARCH EXPERIENCES

- **Research Assistant in Numerical Analysis**
DAMTP, University of Cambridge.
Undergraduate summer research project funded by MathWorks.
Supervisors: Prof A Iserles, Dr C-B Schoenlieb, and Dr S J Cowley.

Summer 2012

LANGUAGES

- **Italian:** Native speaker
- **English:** Fluent
- **French:** Fluent