Francesca Balestrieri, MA (Cantab), MSc (Oxon), DPhil (Oxon)

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Nationality:	Italian

Postdoc positions and Employment

- **Post-Doc Fellowship, Max-Planck-Institut für Mathematik** — 2017–2019
  Mentors: Prof Yuri I Manin, Prof Pieter Moree
- **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

- **University of Washington**, Seattle, USA — Sep–Dec 2015
  Visiting: Prof Bianca Viray

Papers and Preprints

7. *Arithmetic of rational points and zero-cycles on products of Kummer varieties and K3 surfaces*
   with R. Newton.
   Preprint (2018).
6. *Arithmetic of rational points and zero-cycles on Kummer varieties*
   with R. Newton.
   Submitted (2018).
5. *Brauer-Manin obstruction and families of generalised Châtelet surfaces over number fields*
   Submitted (2018).
4. *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.
3. *Iterating the algebraic étale-Brauer set*
   Journal of Number Theory 182 (2018), 284–295
2. *Obstruction sets and extensions of groups*
   Acta Arithmetica 173 (2016), 151–181.
1. *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.

Scholarships and Prizes

- **EPSRC Studentship**, fees & maintenance, Mathematical Institute (University of Oxford). — 2013–2017
- **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

- **Stipendiary Lecturship**, Pembroke College. 2016–2017
  - **M1 Groups and group actions**. First year course. Trinity Term 2017
  - **A.SO Group Theory**. Second year. 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)

- **Algebraic Number Theory**, 2 lectures (substituting Prof Viray). Graduate course. Fall Quarter 2015

Committees and service

- Reviewer for the Mathematical Reviews of the AMS. 2017–
- Peer-reviewer for the Tunisian Journal of 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

- *Sull'aritmetica dei punti razionali e degli zero-cicli sulle varietà di Kummer* (in Italian) [Canceled due to illness] 1 Jun 2018
  XIV Giornate di Geometria Algebrica ed Argomenti Correlati, Università di Genova, Italy.
- *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.
- *How badly can the Hasse principle fail?*   22 Oct 2014
  Kinderseminar, University of Oxford, UK.
- *On the existence of rational points: an introduction to obstructions*   4 Sep 2014
  NATO ASI, Ohrid, FYROM.
- *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 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?**   10–12 Jul 2012
  Department of Philosophy, University of Cambridge, UK.

OTHER RESEARCH EXPERIENCES

- **Research Assistant in Numerical Analysis**   Summer 2012
  DAMTP, University of Cambridge.
  Undergraduate summer research project funded by MathWorks.
  Supervisors: Prof A Iserles, Dr C-B Schoenlieb, and Dr S J Cowley.

LANGUAGES

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