

Enrico Fatighenti

Academic Positions

- 2020 - 2021 **Postdoctoral Fellow**, *IMT Toulouse*, Sponsored by CIMI Toulouse.
2018 - 2020 **Postdoctoral Fellow**, *Loughborough University*, EPSRC Doctoral Prize Fellow.
2017 - 2018 **Postdoctoral Fellow**, *Università Roma Tre*, Sponsored by MIUR-project FIRB 2012 "Moduli spaces and their applications".

(Long) Research stays

- 02/2020 **Research In Paris**, *Institut Henri Poincaré*, Paris, 3 weeks.
08/2016 **Visiting Researcher**, *University of Nairobi*, Nairobi, 2 weeks.
09/2015 **Visiting Researcher**, *KIAS (Korea Institute for Advanced Studies)*, Seoul, 1 Month.

Education

- 2017 **PhD in Mathematics**, *University of Warwick*, Supervisor: Professor Miles Reid, FRS.
Thesis title: "Hodge Theory in Grassmannians"
2013 **MSc in Pure Mathematics**, *Sapienza Università di Roma*.
Final mark: 110/110 cum laude

Publications

Published Articles

A note on a Griffiths-type ring for complete intersections in Grassmannians, with Giovanni Mongardi, *Mathematische Zeitschrift*, to appear.

Nested varieties of K3 type, with Marcello Bernardara and Laurent Manivel, *Journal de l'École polytechnique-Mathématiques (JEP)*, Tome 8 (2021), pp. 733-778.

Fano varieties of K3 type and IHS manifolds, with Giovanni Mongardi, *Int.Math.Res.Not. (IMRN)*, Volume 2021, Issue 4, February 2021, Pages 3097-3142.

Hodge numbers and deformations of Fano threefolds, with Gavin Brown, *Doc. Math.* 25, 267-307 (2020).

Surfaces of general type with $p_g = 1$, $q = 0$, $K^2 = 6$ and Grassmannians, *Math. Nachr.* 293 (2020), no. 1 (January), Pages 88-100.

Weighted Fano varieties and infinitesimal Torelli problem, with Francesco Zucconi and Luca Rizzi, *Journal of Geometry and Physics*, Volume 139, May 2019, Pages 1-16.

Hodge Theory and deformations of affine cones of subcanonical projective varieties, with Domenico Fiorenza and Carmelo di Natale, *J. Lond. Math. Soc. (2)* 96 (2017), no. 3, 524-544.

Hodge theory in Grassmannians, PhD Thesis, Warwick, 2017.

Preprints

Fano 3-folds from homogeneous vector bundles over Grassmannians, *arXiv:2009.13382*, with Lorenzo De Biase and Fabio Tanturri, submitted.

A journey from the octonionic \mathbb{P}^2 to a fake \mathbb{P}^2 , *arXiv:2008.09731*, with Lev Borisov and Anders Buch, submitted.

New explicit constructions of surfaces of general type, *arXiv:2004.02637*, with Lev Borisov, submitted.

Research Interests

Fano manifolds of K3 and Calabi–Yau type and link with hyperkähler geometry. Explicit constructions of varieties in homogenous varieties and their Hodge theory.

Explicit construction of surfaces of general type with small p_g , K^2 and Calabi-Yau quotients in low dimension.

Fano and Calabi-Yau varieties in Weighted Projective Spaces. Explicit birational classification, especially of \mathbb{Q} -Fano threefolds.

Teaching experience

Undergraduate Teaching

- 2018/19 Lecturer for 18MAB241 - Complex Variables, Loughborough University. 18 hours (6 weeks).
- 2015/16 Teaching Assistant for the module "Algebraic Geometry" at University of Warwick. 12 hours (12 weeks)
- 2014/15 Teaching Assistant for the module "Riemann Surfaces" at University of Warwick. 12 hours (12 weeks)
- 2013/14 Teaching Assistant for the module "Manifolds" at University of Warwick. 12 hours (12 weeks)

Graduate Teaching

- 2017/18 PhD Course "Topics on Fano varieties", Roma Tre University. 14 hours (7 weeks).
- 2016 Master course on "Topology of hypersurfaces", University of Nairobi. 8 hours (2 weeks).

Students supervised

- 2018-19 Xiaoshan Huang: BSc Final project, *Hilbert's Nullstellensatz and Bézout Theorem*. Served as committee member for Thesis defense.

Fundings obtained

- 2020 Research In Paris grant, supported by Institut Henri Poincaré, €3000. Grant for the research project: *The hunt for fano varieties of K3 type*, in collaboration with Fabio Tanturri.
- 2018 Travel grant from INDAM (Italian national institute of higher mathematics) to visit Japan, €750.
- 2018 LMS Scheme 8 Grant (£2430) to organise the conference "2CinC: COW and Calf in Cardiff".
- 2017 Secured funding for GAeL XXV in Bath (£22149) from several funding bodies, including Compositio Mathematica, GMJT, Heilbronn, IMA, IMI, LMS, University of Bath.

Honours, Awards and Studentships

- 2017 EPSRC Doctoral Prize (18-Months postdoc at Loughborough University, starting October 2018)
- 2013 3.5-years Warwick University full studentship +EPSRC studentship covering fees
- 2013 Percorso D'Eccellenza per Laurea Magistrale (award of excellence for outstanding students during the MSc)
- 2008 MIUR (Ministry of Public Instruction and Research) Award of Excellence for Scientific High School degree

Talks and Courses given

Conferences

- 2021 *BMC-BAMC Glasgow 2021*, online
- 2020 *Simons conference on K-stability*, online
- 2020 *Japanese-European Symposium on Symplectic Varieties and Moduli spaces V*, online
- 2020 *Workshop EXARCHOS*, Ravenna

- 2019 *Winter school on Bridgeland stability*, Warwick University
- 2019 *Integrable systems and automorphic forms*, Lille University
- 2019 *Workshop on Fano varieties and IHS manifolds*, Rimini
- 2018 *Fano varieties and their automorphisms*, Loughborough
- 2018 *GAeL XXVI*, Strasbourg
- 2018 *Giornate di Geometria Algebrica e argomenti correlati XIV*, Genova
- 2018 *Motives of Calabi-Yau manifolds*, IMPAN Kraków
- 2017 *Higher Dimensional Birational Geometry-in honour of Professor Mori*, University of Warwick
- 2015 *Algebraic Geometry and Representation Theory in Rome*, La Sapienza

Seminars

- 2021 *Oberseminar "Algebra und Theoretische Mathematik"*, TU Chemnitz
- 2021 *Algebraic Geometry Seminar*, Università di Trento
- 2020 *COW seminar*, Online COW
- 2020 *Nottingham Algebraic Geometry Seminar*, online
- 2020 *Algebraic Geometry Seminar*, Toulouse University
- 2020 *Seminaire de geometrie algebrique*, IMJ-PRG Paris
- 2019 *Algebraic Geometry Seminar*, Torino University
- 2019 *Algebraic Geometry Seminar*, Liverpool University
- 2019 *Geometry and Mathematical Physics Seminar*, University of Birmingham
- 2019 *Algebraic Geometry Seminar*, Oslo University
- 2019 *Algebraic Geometry Seminar*, Alma Mater Studiorum - Università di Bologna
- 2019 *MAGIC Seminar*, Imperial College London
- 2019 *GAPT Seminar*, Cardiff University
- 2019 *Algebraic Geometry Seminar*, Lille University
- 2018 *Algebraic Geometry Seminar*, Toulouse University
- 2018 *Algebraic Geometry Seminar*, HSE Moscow
- 2017 *Algebraic Geometry Seminar*, Università Roma Tre
- 2017 *Algebraic Geometry Seminar*, Loughborough University
- 2017 *Algebraic Geometry Seminar*, Alma Mater Studiorum - Università di Bologna
- 2017 *Algebraic Geometry Seminar*, Toulouse University
- 2016 *COW seminar*, University of Bath
- 2016 *Algebraic Geometry OberSeminar*, IAG Leibniz Universität Hannover
- 2016 *Algebraic Geometry Seminar*, Cardiff University
- 2015 *CALF Seminar*, University of Oxford
- 2015 *Algebraic Geometry Seminar*, KIAS

Academic activities

Referee for *Compositio Mathematica*, *Proceedings of the London Mathematical Society* and *Revista Matemática Complutense*
 Reviewer for *zbMATH* and *Math Reviews*

Seminar and Conferences Organized

- 2/2017 **Organizer of the conference "2CinC: Cow and Calf in Cardiff"**, Secured funding from *London Mathematical Society*, *Cardiff University*.
- 2015-2017 **Main Organizer of the GAeL Conference (editions XXIV-XXV)**, Secured funding from *London Mathematical Society*, *Compositio Mathematica*, *Glasgow Mathematical Journal Trust*, *Heilbronn Foundation*, *Bath University*, *EPSRC via 3CinG Grant*.

2014-2017 **Main Organizer of the CALF Seminar**, together with *Claudio Onorati (Bath)*.

Membership in Research groups, Grants and Projects

- 2020 Collaborator for EPSRC EP/T001968/1: "The Abram Gannibal Project: Collaborative research in applied algebra and geometry in Africa"
- 2018/2020 Member of the Centre for Geometry and Applications, Loughborough University
- 2017/18 Member of the Roma Tre unit for FIRB 2012 "Moduli Spaces and Their Applications"
- 2017- External collaborator for EPSRC EP/N03189X/1 "3CinG"

Languages

Italian Native

English Fluent

IELTS Certification (2013)

Computer skills

Advanced Computer algebra softwares as Macaulay2, Magma and Singular

In data 9/04/2021,

Enrico Fatighenti

“Autorizzo il trattamento dei dati personali contenuti nel presente curriculum vitae ai sensi del D.Lgs. 196/2003 “Codice in materia di protezione dei dati personali”.

Autorizzo la pubblicazione del presente curriculum vitae sul portale di Ateneo “Amministrazione trasparente” in ottemperanza al D.Lgs. 33/2013 e al D.Lgs. 97/2016.