

SALVATORE FLOCCARI

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ACADEMIC POSITIONS

Universität Bielefeld

October 2023 - Present

Postdoc – Fakultät für Mathematik

Promotor: Charles Vial

Leibniz Universität Hannover

April 2021 - September 2023

Postdoc – IAG

Promotor: Stefan Schreieder

Radboud Universiteit Nijmegen

February 2017 - March 2021

Promovendus – IMAPP

EDUCATION

Radboud Universiteit Nijmegen

2017 - 2021

PhD in Mathematics

Advisors: Ben Moonen & Arne Smeets

Rheinische Friedrich-Wilhelms Universität Bonn

2014 - 2017

Master's Degree in Mathematics

Advisors: Daniel Huybrechts & Andrey Soldatenkov

Università degli studi di Padova

2011 - 2014

Bachelor's Degree in Mathematics

Advisor: Ernesto Mistretta

PUBLICATIONS

Algebraic cycles on hyper-Kähler varieties of generalized Kummer type (with M. Varesco)

Mathematische Annalen, vol. 391, pp. 4443–4453 (2025)

Sixfolds of generalized Kummer type and K3 surfaces

Compositio Mathematica, vol. 160, no. 2, pp. 388–410 (2024)

On the motive of O'Grady's six-dimensional hyper-Kähler varieties

Épjournal de Géométrie Algébrique, vol. 7, Article nr. 4 (2023)

Galois representations on the cohomology of hyper-Kähler varieties

Mathematische Zeitschrift, vol. 301, no. 1, pp. 893–916 (2022)

On the Mumford–Tate conjecture for hyper-Kähler varieties

Manuscripta Mathematica, vol. 168, no. 3-4, pp. 309–234 (2022)

On the motive of O'Grady's ten-dimensional hyper-Kähler varieties (with L. Fu and Z. Zhang)

Communications in Contemporary Mathematics, vol. 23, no. 4 (2021)

PREPRINTS

The Hodge and Tate conjectures for hyper-Kähler sixfolds of generalized Kummer type
arXiv preprint: 2308.02267 (2023), submitted

K3 surfaces associated to varieties of generalized Kummer type
arXiv preprint: 2501.02315 (2025), submitted

TEACHING EXPERIENCE

<i>Geometrie und Topologie I</i> (Tutor) – Universität Bielefeld	Summer 2025
<i>Algebra I</i> (Tutor) – Universität Bielefeld	Winter 2024
<i>Algebraische Geometrie II</i> (Lectures & Exercises) – Universität Bielefeld	Winter 2023
<i>Mathematik für Ingenieure II</i> (Tutor) – Leibniz Universität Hannover	Summer 2023
<i>Mathematik für Ingenieure I</i> (Tutor) – Leibniz Universität Hannover	Winter 2022
<i>Riemann surfaces</i> (TA) – Mastermath course	Summer 2020
<i>Categories and homological algebra</i> (TA) – Radboud Universiteit	Winter 2019
<i>Riemann surfaces</i> (TA) – Mastermath course	Summer 2019
<i>Riemann surfaces</i> (TA) – Mastermath course	Summer 2018
<i>Coverings in Algebra, Topology and Geometry</i> (TA) – Radboud Universiteit	Summer 2017

ACTIVITIES

Organization Oberseminar <i>Hodge Loci</i> – Bielefeld University	Summer 2024
<i>Derived categories in Algebraic Geometry</i> – Utrecht Universiteit Seminar co-organized with Johan Commelin	Winter 2017

AWARDS

Bielefeld Young Researchers Funds – Mobility Grant (5000 euro)	2024
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RESEARCH TALKS

<i>K3 surfaces associated to varieties of generalized Kummer type</i> Seminar in Algebraic Geometry – NCTS Taiwan	21 March 2025
<i>The hyper-Kummer construction</i> Algebraic Geometry Seminar – Columbia University	14 February 2025
<i>The Hodge conjecture for sixfolds of generalized Kummer type</i> HyperKähler Varieties, Derived Categories, and Moduli Spaces – Columbia University	8 February 2025

<i>The hyper-Kummer construction</i> Northern German Algebraic Geometry Seminar – Universität Bielefeld	30 January 2025
<i>La costruzione di iper-Kummer e sue applicazioni</i> Varietà italiane olomorfe simplettiche – Ravenna	17 January 2025
<i>K3 surfaces associated to varieties of generalized Kummer type</i> Séminaire Arithmétique et géométrie algébrique – IRMA Strasbourg	12 December 2024
<i>The hyper-Kummer construction</i> Hyperkähler varieties and related topics, II – Sapienza Università di Roma	14 October 2024
<i>The Hodge conjecture for hyper-Kähler sixfolds of generalized Kummer type</i> Workshop on Algebraic Cycles – Leibniz Universität Hannover	1 October 2024
<i>K3 surfaces associated to varieties of generalized Kummer type</i> Ricercatori in Algebra e Geometria – Università degli studi di Milano	26 September 2024
<i>The Hodge conjecture for hyper-Kähler sixfolds of generalized Kummer type</i> Seminario di Algebra & Geometria - La Sapienza, Roma	17 January 2024
<i>La congettura di Hodge per varietà hyper-Kähler di dimensione 6 di tipo Kummer generalizzato</i> Giornate di Geometria Algebrica e Argomenti Correlati XVI	14 September 2023
<i>The Hodge conjecture for hyper-Kähler sixfolds of generalized Kummer type</i> Oberseminar Algebraische Geometrie – Leibniz Universität Hannover	20 July 2023
<i>Sixfolds of generalized Kummer type and K3 surfaces</i> Seminario di Geometria Algebrica – Università di Roma 2, Tor Vergata	21 March 2023
<i>Sixfolds of generalized Kummer type and K3 surfaces</i> Algebraic Geometry Seminar – ODTÜ-Bilkent University	3 March 2023
<i>Sixfolds of generalized Kummer type and K3 surfaces</i> Seminario di Geometria Algebrica – Università di Bologna	24 January 2023
<i>Sixfolds of generalized Kummer type and K3 surfaces</i> Workshop “Fano varieties, hyper-Kähler varieties and algebraic cycles” – IRMA Strasbourg	10 January 2023
<i>Sixfolds of generalized Kummer type and K3 surfaces</i> Algebraic Geometry Seminar – TU Chemnitz	8 December 2022
<i>André motives of hyper-Kähler varieties</i> ERC HyperK Seminar – Universität Bonn	2 December 2022
<i>Sixfolds of generalized Kummer type and K3 surfaces</i> Algebraic Geometry Seminar – University of Lille	8 November 2022
<i>Sixfolds of generalized Kummer type and K3 surfaces</i> Algebraic Geometry Seminar – University of Bielefeld	19 October 2022
<i>Motives of moduli spaces and hyper-Kähler varieties</i> New perspectives on Hyperkähler Manifolds: Dimitri Markushevich’s (60+2)nd birthday	17 June 2022
<i>Isogenous hyper-Kähler varieties</i> Algebraic Geometry Seminar – University of Georgia	24 November 2021

<i>Isogenous hyper-Kähler varieties</i> Arithmetische Geometrie Seminar – Humboldt Universität Berlin	2 November 2021
<i>Motives of hyper-Kähler varieties and the Mumford–Tate conjecture</i> Séminaire Arithmétique et géométrie algébrique – IRMA Strasbourg	21 October 2021
<i>Motives of hyper-Kähler varieties and the Mumford–Tate conjecture</i> Oberseminar Algebraische Geometrie – Leibniz Universität Hannover	8 July 2021
<i>Motives of hyper-Kähler varieties and the Mumford–Tate conjecture</i> Seminario di Geometria Algebrica – Università degli studi di Milano	6 May 2021
<i>The Mumford–Tate conjecture for hyper-Kähler varieties</i> at Workshop EXARCHOS – Ravenna	23 January 2020

OTHER TALKS

<i>Functional transcendence</i> in Oberseminar <i>Hodge loci</i> – Universität Bielefeld	5 June 2024
<i>Rational Hodge isometries of K3 surfaces (after Buskin)</i> in working seminar – IAG, Leibniz Universität Hannover	27 April 2023
<i>Moduli of polarized hyper-Kähler varieties</i> support talk at conference <i>Hyper-Kähler varieties and related topics</i> – Rome	13 September 2022
<i>Green’s conjecture on higher Abel–Jacobi maps</i> in seminar 0-cycles – IAG, Leibniz Universität Hannover	2 June 2022
<i>Stable cohomology and the tautological ring</i> at JAVA school on <i>The top weight cohomology of the moduli space of curves</i> – Tatihou island	1 September 2021
<i>Tropicalizations as Skeletons</i> in seminar Tropical Geometry – IAG, Leibniz Universität Hannover	14 July 2021
<i>Multiplicativity of perverse decompositions on Hilbert schemes of surfaces with trivial canonical bundle (after Shen and Zhang)</i> Intercity Geometry Seminar – Radboud Universiteit Nijmegen	8 July 2020
<i>Saito’s decomposition theorem</i> at JAVA school on <i>Mixed Hodge modules: Applications</i> – Tatihou island	22 June 2019
<i>Basics on log schemes</i> Intercity Geometry Seminar – Radboud Universiteit Nijmegen	8 March 2019
<i>The middle extension functor</i> in seminar <i>Perverse sheaves and applications</i> – Radboud Universiteit Nijmegen	20 March 2017

CONFERENCES AND SCHOOLS ATTENDED

<i>Hyperkähler Varieties, Derived Categories, and Moduli Spaces</i> Columbia University, New York, USA	7-9 February 2025
<i>Northern German Algebraic Geometry Seminar</i> Universität Bielefeld, Germany	30-31 January 2025

<i>Varietà italiane olomorfe simplettiche</i> Università di Bologna, sede di Ravenna	15-17 January 2025
<i>Hyperkähler varieties and related topics, II</i> Sapienza Università di Roma, Italy	14-18 September 2024
<i>Workshop on Algebraic cycles</i> Leibniz Universität Hannover, Germany	30 September- 2 October 2024
<i>Ricercatori in Algebra e Geometria</i> Università degli studi di Milano, Italy	25-27 September 2024
<i>Integral Structures in Geometry and Representation theory</i> Paderborn, Germany	9-13 September 2024
<i>New perspectives on hyperkähler manifolds and moduli of vector bundles</i> <i>A conference in honor of Kieran O'Grady</i> Hotel San Michele, Cetraro, Italy	2-6 September 2024
<i>EPIGA 2024</i> Sorbonne University, Paris, France	10-14 June 2024
<i>Fano and Hyperkähler varieties in Genova</i> Università di Genova, Italy	22-26 January 2024
<i>Giornate di Geometria Algebrica e Argomenti Correlati XVI</i> Hotel San Michele, Cetraro, Italy	12-15 September 2023
<i>Workshop: Hyperkähler quotients, singularities, and quivers</i> Simons Center for Geometry and Physics, Stony Brook, USA	30 January- 3 February 2023
<i>Fano varieties, hyper-Kähler varieties and algebraic cycles</i> IRMA Strasbourg, France	9-11 January 2023
<i>Hyperkähler varieties and related topics</i> Sapienza Università di Roma, Italy	12-16 September 2022
<i>Algebraic Geometry in Hannover: Klaus Hulek's 70th Birthday</i> Leibniz Universität Hannover, Germany	7-9 September 2022
<i>HyperKähler manifolds and related geometries</i> Hotel San Michele, Cetraro, Italy	28 August- 2 September 2022
<i>New perspectives on Hyperkähler Manifolds: a Celebration of Dimitri Markushevich's (60+2)nd birthday</i> Hotel Bellavista Relax, Levico Terme, Italy	13-17 June 2022
<i>Géométrie Algébrique en l'honneur de Claire Voisin</i> Institute Henri Poincaré, Paris, France	16-20 May 2022
<i>Mini-workshop: Sheaves on HyperKähler manifolds</i> Università degli Studi di Milano, Italy	21-22 April 2022
<i>Moduli Spaces and Hyper-Kähler varieties in Rome</i> Sapienza Università di Roma, Italy	13-14 September 2021
<i>JAVA – The top weight cohomology of the Moduli Space of Curves</i> Tatihou Island, France	30 August- 3 September 2021

<i>Workshop EXARCHOS</i> Ravenna, Italy	22-24 January 2020
<i>JAVA – Mixed Hodge Modules: Applications</i> Tatihou Island, France	22-26 July 2019
<i>Periods and Motives</i> Brandenburg Academy of Science, Berlin, Germany	8-12 July 2019
<i>GAeL XXVII</i> Stoilow Institute, Bucharest, Romania	17-21 June 2019
<i>Motives Today</i> Hotel Villa Madruzzo, Cognola (Trento), Italy	3-7 June 2019
<i>Rationality of Algebraic Varieties</i> Schiermonnikoog Island, The Netherlands	15-19 April 2019
<i>JAVA – Hodge theory of character varieties and the $P=W$ conjecture</i> Tatihou Island, France	22-27 July 2018
<i>GAeL XXVI</i> University of Strasbourg, France	18-22 June 2018
<i>Riemann-Hilbert correspondence</i> Università degli Studi di Padova, Italy	29 January- 9 February 2018
<i>ELGA3: Third Latin American school on Algebraic Geometry and its Applications</i> CIMAT, Guanajuato, Mexico	31 July- 11 August 2017
<i>Cycles and moduli</i> ETH Zürich, Switzerland	27-30 March 2017