Curriculum vitae

Claire Voisin
born March 4, 1962 at Saint-Leu-la-forêt (Val d'Oise, France)
Married, five children.

Present position. Senior researcher at CNRS.

Cursus.
1981 Entered Ecole Normale Supérieure, Sèvres
1983 Agrégation
1986 PhD thesis (Adviser A.Beauville); permanent research position at CNRS.
1989 Habilitation.
1995-2016 Senior researcher at CNRS.
2016-2020 Professor at Collège de France (chaire de géométrie algébrique).

1   Distinctions

- Bronze medal of the CNRS (1988).
- IBM prize for young researchers (1989).
- Prize of the European Mathematical Society (1992).
- Cours Peccot at Collège de France (1992).
- Servant prize awarded by the Académie des Sciences de Paris (1996).
- Sophie Germain prize awarded by the Académie des Sciences de Paris (2003).
- Silver medal of the CNRS (2006).
- Satter Prize, awarded by the American Mathematical Society (2007).
- Clay Research Award, awarded by the Clay Mathematics Institute (2008).
- Heinz Hopf prize, awarded by ETH Zürich (2015).
- Gold medal of CNRS (2016).
- Shaw prize (2017).
- L'Oréal-UNESCO prize (2019).
- ERC "Synergy grant" 2020-2025, shared with O. Debarre, D. Huybrechts, E. Macrí.
- Foreign member of the Istituto Lombardo (2006), the Accademia dei Lincei (2011), the National Academy of Sciences (2016),the Royal society (2021), the Academy of Arts and Science (2022).
- Member of the Deutsche Akademie der Naturforscher Leopoldina (2009), the Académie des Sciences (2010), Academia Europaea (2014).
- Honorary member of the London Mathematical Society (2012).

2   Selected invitations and lectures

• Invited speaker (Algebraic geometry section) of the International congress of Mathematicians (Zürich,1994).
• Lagrange Chair (Roma, 1996).
• Plenary speaker at the 4rth European congress of Mathematics (Stockholm, July 2004): *"Recent progresses in Kähler and complex algebraic geometry"*.
• Takagi lectures (Kyoto, November 2006) : *"Some aspects of the Hodge conjecture"*.
• Adrian Albert lectures of the University of Chicago (April 2007): *"Hodge structures in Kähler and/or algebraic geometry"*.
• Clay senior scholar, MSRI 2009.
• Alfred Brauer lectures , UNC, Chapel Hill (February 2009): *"Curves and their Jacobians; from canonical syzygies to Hodge theory and algebraic cycles of Jacobians"*.
• Plenary speaker at the International congress of Mathematicians (Hyderabad, August 2010) : *"On the cohomology of algebraic varieties"*.
• Rademacher lectures, (University of Pennsylvania, October 2011)
• Hermann Weyl lectures (IAS, Princeton, November 2011).
• Abel lecture, (Oslo, Mai 2013). *"Mixed Hodge structures and the topology of algebraic varieties"* (presentation of Deligne's work at the occasion of his Abel prize).
• Coxeter lectures, (Fields Institute, November 2013) *"Chow rings of Calabi-Yau manifolds"*.
• British Mathematical Colloquium, plenary lecture, (Queen Mary University of London, Avril 2014).
• Distinguished visiting professor, IAS 2014-2015.
• Distinguished lectures, University of Haifa (April 2016).
• Distinguished lectures, UCLA, May 2017.
• Chow lecture, Leipzig, May 2017.
• Senior fellow of ETH-ITS, Zürich, 2017.
• Infosys-ICTS Ramanujan lectures, Bangalore 2018.
• Clay Senior scholar, MSRI, January-April 2019.
• Euler lecture in Sansouci, Postdam, May 2019.
• Terry Wall lecture, Liverpool, December 2020 (online).
• EMS lecturer 2022.
• BMC plenary speaker, June 2022.
• Plenary speaker at the AMS-EMS-SMF joint meeting, Grenoble, July 2022.
• Elisha Netanyahu Memorial Lecture, Haïfa Technion Institute, April 2023.
• Michael Erceg public Lecture, Auckland, April 2023.

3   Editorial membership

Past:
   - Mathematische Zeitschrift (1997-2004).
   - Annales de l'ENS (1999-2004),
   - Journal of Algebraic Geometry (2004-2007).
   - J. Differential Geometry (2004-2007).
   - Duke Math. Journal, (1996-2010).
   - Journal of the European Math. Society (JEMS) (1998-2014).
   - Communications in Analysis and Geometry (2012-2016).
   - Publications Mathématiques de l'IHES (2007-2019) (chief-editor from 2010).
   - Journal de mathématiques pures et appliquées (2009-2021).

- Communications in Contemporary Mathematics (2007-2021).

Present:
    Editor of :
    - Annales de la Faculté des Sciences de Toulouse (2020-)
    - Annali della Scuola Normale superiore di Pisa (2019-).
    - Duke Math. Journal (associate editor 2020-).
    - Journal de l'Institut de Mathématiques de Jussieu (2021-).
    - Moduli (2023-).

4 PhD students

- *Anna Otwinowska*, Thesis defended in January 2000 : "Groupes de Chow des hypersurfaces et intersections complètes de petit degré".

- *Lorenz Schneider*, Thesis defended in December 2001 on the higher Abel-Jacobi invariants defined by M. Green.

- *Gianluca Pacienza*, Thesis defended in January 2002. Now Professor in Nancy.

- *Catriona Maclean*, Thesis defended in April 2003. Now assistant Professor in Grenoble.

- *Thomas Dedieu*, Thesis defended in november 2008. Now assistant Professor in Toulouse.

- *Julien Grivaux*, Thesis defended in October 2009. Now Professor in Paris 6..

- *François Charles*, Thesis defended in April 2010. Now Professor in Orsay.

- *Lie Fu*, Thesis defended in October 2013. Now assistant Professor in Lyon.

- *Hsueh-Yung Lin*, thesis defended in November 2015.

- *René Mboro*, thesis defended in October 2017.

- *Ivan Bazhov*, thesis defended in November 2017.

- *Chenyu Bai*, thesis started in 2021.

- *Matteo Verni*, (2023-).

5 International committees

- Member of the Programm committee for Madrid ICM (2006).
- Member of the jury IUF junior in 2006 and 2007.
- Member of the scientific committee of MFO (Oberwolfach), 2009-2014.
- Member of the scientific committee of CIRM (2009-2014).
- Member of the jury of the "chaire Blaise Pascal", 2009-2014.

- Member of the scientific committee for Warsaw ECM (2012).
- Member of the scientific committee of ENS, 2011-2014.
- Member of the IMU committee for the Chern medal 2014.
- Member of the jury of the "chaire Poincaré", 2014-2018.
- Member of the scientific committee of the Fields institute (2013-2016).
- Member of the Heinz Hopf prize committee (2018-2021).
- Member of the Abel prize committee for 2020 and 2021.
- Chair of the programm committee for ICM 2026 (2023-2026).

6 List of publications

[**Invent86**] Théorème de Torelli pour les cubiques de $\mathbb{P}^5$, Invent. Math. 86, 577-601(1986), + correction Invent. Math. 2008.

[**DMJ88**] Sur la jacobienne intermédiaire du double solide d'indice deux, Duke Math. Journal, Vol.57, (1988), 629-646.

[**MathAnn88**] Une précision concernant le théorème de Noether, Math. Annalen 280, 605-611, (1988).

[**ComHelv89**] Composantes de petite codimension du lieu de Noether-Lefschetz, Comment. Math. Helvetici (1989) 515-526.

[**Crelle88**] Courbes tétragonales et cohomologie de Koszul, J. Reine Angew. Math. 387 (1988).

[**JdiffGeom90**] Dégénérations de Lefschetz et variations de structure de Hodge, J. of Differential Geometry 31 (1990) 527-534.

[**CRAS88**] Une remarque sur l'invariant infinitésimal des fonctions normales, C.R.A.S. Paris, t.307, Série 1, 157-160 (1988).

[**Trento90**] Sur une conjecture de Griffiths et Harris, publié dans: *Algebraic curves and projective geometry*, Proceedings Trento 1988, E. Ballico, C. Ciliberto Eds, Lecture Notes in Mathematics n^0 1389, 270-275.

[**AmerJMath90**] Relations dans l'anneau de Chow de la surface des coniques des variétés de Fano, Amer. J. of Mathematics 112 (1990) 877-898.

[**CompoMath90**] Sur le lieu de Noether-Lefschetz en degré 6 et 7, Compositio Mathematica 75 (1990) 47-68.

[**Acta92**] Sur l'application de Wahl des courbes satisfaisant la condition de Brill-Noether-Petri, Acta Mathematica , vol. 168 (1992) 249-272.

[**Trieste92**] Sur la stabilité des sous-variétés lagrangiennes des variétés symplectiques holomorphes, publié dans:*Complex projective geometry*, proceedings de la conférence de Trieste, juin 89, édité par Ellingsrud,Peskine,Sacchiero et Stromme, London Math. Soc. Lecture notes series 179, 294-302.

[**JAG92**] Une approche infinitésimale du théorème de H. Clemens sur les cycles d'une quintique générale de $\mathbb{P}^4$, J. Algebraic geometry 1,(1992), 157-174.

[**AnnPisa92**] Sur les zéro-cycles de certaines hypersurfaces munies d'un automorphisme, Annali della Scuola Normale Superiore di Pisa, Serie 4, vol. 19 (1992) 473-492.

[**Topology93**] Structure de Hodge mixte sur certains groupes d'homotopie et application d'Abel-Jacobi, Topology vol. 32 n^0 2, 395-417 (1993).

[**CRAS91**] Contre-exemple à une conjecture de Harris, C.R.A.S. Paris, t.313, Série 1, 685-687 (1991).

[**ProcLond93**] Déformation des syzygies et théorie de Brill-Noether, Proc. London Math. Soc. 3 ,vol. 67 (1993) 493-515.

[**IntJMath92**] Densité du lieu de Noether-Lefschetz pour les sections hyperplanes des variétés de Calabi-Yau de dimension trois, International Journal of Mathematics , vol. 3, n^0 5 (1992) 699-715.

[**AnnENS94**] Sur l'application d'Abel-Jacobi des variétés de Calabi-Yau de dimension trois, Annales de l'ENS, 4eme série, tome 27 (1994) 209-226.

[**Astérisque93**] Miroirs et involutions sur les surfaces K3, dans *Journées de géométrie algébrique d'Orsay*, juillet 92, édité par A. Beauville, O. Debarre, Y. Laszlo, Astérisque 218 (1993) 273-323.

[**MathAnn94**] Variations de structure de Hodge et zéro-cycles sur les surfaces générales, Mathematische Annalen 299, 77-103 (1994).

[**Taniguchi94**] Remarks on zero-cycles of self-products of varieties, dans *Moduli of vector bundles* (Proceedings du congrès Taniguchi sur les fibrés vectoriels), édité par Maruyama, Decker (1994) 265-285.

[**AlgGeom98**] Une preuve élémentaire de la trivialité du groupe CH_0 d'une surface d'Enriques, dans *Algebraic geometry* , édité par P. Newstead, Decker 1998.

[**CRAS96bis**] (with L. Bonavero) Schémas de Fano et variétés de Moishezon , C. R. Acad. Sci. Paris, t. 323 serie 1 , 1019-1024. (1996)

[**JdiffGeom96**] On a conjecture of Clemens on rational curves on hypersurfaces, Journal of Differential Geometry 44 (1996) 200-214 (+ correction 1998).

[**CompoMath96**] A mathematical proof of a formula of Aspinwall and Morrison, Compositio Mathematica 104, 135-151,1996.

[**CRAS96**] Sur les groupes de Chow de certaines hypersurfaces, C. R. Acad. Sci. Paris, t. 322, serie 1, 73-76, 1996.

[**Newtrends97**] A generic Torelli theorem for the quintic threefold, dans *New trends in Algebraic Geometry*, édité par Hulek, Catanese, Peters et Reid, Lond. Math. Soc. Lecture Note Series 264.

[**AnnMath99**] Some results on Green's higher Abel-Jacobi map, Annals of Math. 149 , 451-473 (1999).

[**DMJ00**] The Griffiths group of a general Calabi-Yau threefold is not finitely generated, Duke Math. J. Vol. 102, No 1 (2000), 151-186.

[**AnnFourier00**] On the Hilbert scheme of an almost complex fourfold, Annales de l'Institut Fourier Tome 50 (2000), fascicule 2, 689-722.

[**ContMath02**] On the Hilbert scheme of a symplectic fourfold, Volume en l'honneur de Herb Clemens, Contemporary Mathematics, Vol; 312, (2002).

[**JIMJ02**] Nori's connectivity theorem and higher Chow groups, Journal of the Inst. Math. Jussieu (2002) 1 (2), 307-329.

[**JAG04app**] Linear spaces contained in the secant variety of a projective curve, appendice à un article de Ch. Soulé, J. Algebraic Geom. 13 (2004), 343-347.

[**JAG04**] (with A. Beauville) On the Chow ring of a K3 surface, J. Algebraic Geom. 13 (2004), no. 3, 417–426.

[**JEMS02**] Green's conjecture for curves of even genus lying on a K3 surface, J.Eur. Math. Soc. 4, 363-404 (2002).

[**IMRN02**] A counterexample to the Hodge conjecture extended to Kähler varieties, IMRN 2002, n0 20, 1057-1075.

[**Fanoconf04**] K-correspondences and intrinsic pseudo-volume forms, Proceedings of the Fano Conference, (Eds A.Collino, A. Conte, M. Marchisio), Publication de l'Université de Turin (2004).

[**CRAS03**] (with M. Aprodu) Green-Lazarsfeld's conjecture for generic curves of large gonality , CRAS, Volume 336, Issue 4, Pages 335-339, (2003).

[**Annalidimat04**] Remarks on filtrations on Chow groups and the Bloch conjecture, Annali di matematica 183, 421-438 (2004).

[**CompoMath05**] Green's canonical syzygy conjecture for generic curves of odd genus, Compos. Math. 141 (2005), no. 5, 1163–1190.

[**AnnPisa04**] A geometric application of Nori's connectivity theorem, Annali della Scuola Norm. Sup. di Pisa, Vol. III (2004), 637-656.

[**Invent04**] On the homotopy types of compact Kähler and complex projective manifolds, Inventiones Math. Volume 157, Number 2, 329 - 343 (2004).

[**Adv.Math05**] (with C. Soulé) On torsion cohomology classes and torsion algebraic cycles on complex projective manifolds, Advances in Mathematics, Special volume in honor of Michael Artin, Part I, Vol 198/1 pp 107-127.

[**JdiffGeom06**] On the homotopy types of Kähler manifolds and the birational Kodaira problem, J. Differential Geom. 72 (2006), no. 1, 43–71.

[**Kyoto06**] On integral Hodge classes on uniruled and Calabi-Yau threefolds, in *Moduli Spaces and Arithmetic Geometry*, Advanced Studies in Pure Mathematics 45, 2006, pp. 43-73.

[**PAMQ05**] A generalization of the Kuga-Satake construction, Pure and Applied Mathematics Quarterly, Volume 1, Number 3 (Special Issue: In memory of Armand Borel, Part 2 of 3) 415-439, 2005.

[**PAMQ08**] On the Chow ring of certain algebraic hyper-Kähler manifolds, Pure and Applied Mathematics Quarterly, Volume 4, Number 3, (Special issue in honor of Fedya Bogomolov) , 2008.

[**CompoMath07**] Hodge loci and absolute Hodge classes, Compositio Mathematica Vol. 143 Part 4, 945-958, 2007.

[**MathAnn08**] Hodge structures on cohomology algebras and geometry, Math. Ann. 341 (2008), no. 1, 39–69.

[**DMJ08**] (with K. Amerik) Potential density of rational points on the variety of lines of a cubic fourfold, Duke Math. Journal, Vol 145, n0 2, 379-408, (2008).

[**Astérisque08**] Rationally connected 3-folds and symplectic geometry, dans GE-OMETRIE DIFFERENTIELLE, PHYSIQUE MATHEMATIQUE, MATHE-MATIQUES ET SOCIÉTÉ (II), Volume en l'honneur de Jean Pierre Bour-guignon (O. Hijazi, éd.), Astérisque 322 (2008).

[**GAFA09**] Coniveau 2 complete intersections and effective cones, Geom. Funct. Anal. Vol. 19 (2010) 1494-1513.

[**crelle10**] (with Olivier Debarre) Hyper-Kähler fourfolds and Grassmann geometry, J. reine angew. Math. 649 (2010), 63-87.

[**CompMath11**] (with Olivier Debarre, Lawrence Ein et Robert Lazarsfeld) Pseu-doeffective and nef classes on abelian varieties, Compositio Mathematica , Volume 147 , Issue 06, pp 1793-1818 (2011).

[**PAMQ11**] (with Andreas Höring) Anticanonical divisors and curve classes on Fano manifolds, Pure and Applied Mathematics Quarterly Volume 7, Number 4 (Special Issue: In memory of Eckart Viehweg), 1371-1393 (2011).

[**Duke12**] (with Jean-Louis Colliot-Thélène) Cohomologie non ramifiée et conjecture de Hodge entière, Duke Math. Journal, Volume 161, Number 5, 735-801 (2012).

[**JAG13**] Abel-Jacobi map, integral Hodge classes and decomposition of the diagonal, J. Algebraic Geom. 22 (2013), 141-174.

[**GeoTop12**] Chow rings and decomposition theorems for families of $K3$ surfaces and Calabi-Yau hypersurfaces, Geometry and Topology 16 (2012) 433-473.

[**PEMS12**] Approximately rationally or elliptically connected varieties, Proceed-ings of the Edinburgh Mathematical Society, (Series 2) , Volume 57, Issue 1 (in honour of Shokurov), p 281 - 297 (2014).

[**Clayharris13**] Remarks on curve classes on Fano varieties, Clay Mathematics Proceedings Volume 18, 2013, 591-599.

[**EMSvdG12**] Degree 4 unramified cohomology with finite coefficients and torsion codimension 3 cycles, in *Geometry and Arithmetic*, (C. Faber, G. Farkas, R. de Jong Eds), Series of Congress Reports, EMS (2012).

[**DocMath12**] Symplectic involutions of $K3$ surfaces act trivially on CH_0, Documenta Math. 17 (2012) 851–860.

[**AnnSci13**] The generalized Hodge and Bloch conjectures are equivalent for general complete intersections, Annales scientifiques de l'ENS 46, fascicule 3 (2013), 449-475.

[**PAMQ13**] (with O. Debarre et Z. Jiang) Pseudo-effective classes and pushfor-wards, Pure and Applied Mathematics Quarterly Volume 9, Number 4 (Special Issue: In memory of Andrey Todorov) (2013).

[**JDG14**] Bloch's conjecture for Catanese and Barlow surfaces, J. Differential Ge-ometry 97 (2014) 149-175 (volume dédié à la mémoire de Friedrich Hirzebruch).

[**AlgGeom14**] Infinitesimal invariants for cycles modulo algebraic equivalence and 1-cycles on Jacobians, Algebraic Geometry 2 (2014) 140-165.

[**KodCent15**] The generalized Hodge and Bloch conjectures are equivalent for general complete intersections, II, Journal of Mathematical Sciences of the University of Tokyo, Kodaira centennial issue.

[**Invent14**] Unirational threefolds with no universal codimension 2 cycle, Inventiones mathematicae: Volume 201, Issue 1 (2015), Page 207-237.

[**GeoTop15**] Some new results on modified diagonals, Geometry and Topology 19-6 (2015), 3307–3343.

[**JEMS17**] On the universal CH_0 group of cubic hypersurfaces, JEMS Volume 19, Issue 6 (2017) pp. 1619-1653.

[**DocMath17**] Avec K. Ranestad) Variety of power sums and divisors in the moduli space of cubic fourfolds, Documenta Mathematica 22 (2017), 455-504..

[**Robfest16**] Rational equivalence of 0-cycles on $K3$ surfaces and conjectures of Huybrechts and O'Grady, dans *Recent Advances in Algebraic Geometry*, Editeurs C. Hacon, M. Mustaţă et M. Popa, London Mathematical Society Lecture Notes Series 417, Cambridge University Press, 422-436 (2015).

[**Schiermonnikoog 16**] Remarks and questions on coisotropic subvarieties and 0-cycles of hyper-Kähler varieties, arXiv:1501.02984, dans "K3 Surfaces and Their Moduli", Proceedings of the Schiermonnikoog conference 2014, C. Faber, G. Farkas, G. van der Geer, Editors, Progress in Math 315, Birkhäuser (2016), 365-399.

[**Acta17**] (with Radu Laza et Giulia Saccà) A hyper-Kähler compactification of the Intermediate Jacobian fibration associated to a cubic fourfold, Acta Mathematica, 218:1 (2017), 55-135.

[**Epiga2017**] (with E. Colombo, G. Farkas, A. Verra) Syzygies of Prym and paracanonical curves of genus 8, Epijournal de Géométrie Algébrique, Volume 1 (2017), Article Nr. 7.

[**AHL2017**] Chow rings and gonality of general abelian varieties , Annales Henri Lebesgue 1 (2018) 313-332.

[**AnnFourier2018**] (with J. Kollár, R. Laza et G. Saccà) Remarks on degenerations of hyper-Kähler manifolds, Annales de l'Institut Fourier, Tome 68, no 7 (2018), p. 2837-2882.

[**Einproc2018**] Hyper-Kähler compactification of the intermediate Jacobian fibration of a cubic fourfold : the twisted case, Local and global methods in algebraic geometry, 341-355, Contemp. Math., 712, Amer. Math. Soc., Providence, RI, 2018.

[**Abelproc2018**] Torsion points of sections of Lagrangian torus fibrations and the Chow ring of hyper-Kähler manifolds, The Abel Symposium Abelsymposium 2017: Geometry of Moduli, pp 295-326.

[**Alggeo2019**] Segre classes of tautological bundles on Hilbert schemes of surfaces , Algebraic Geometry 6 (2) (2019) 186–195.

[**JEP2020**] (with Olivier Debarre, Frédéric Han et Kieran O'Grady) Hilbert squares of K3 surfaces and Debarre-Voisin varieties, Journal de l'Ecole polytechnique, Tome 7 (2020), p. 653-710.

[**Reid70**] Triangle varieties and surface decomposition of hyper-Kähler manifolds, dans *Recent Developments in Algebraic Geometry: To Miles Reid for his 70th Birthday*, London Mathematical Society Lecture Note Series Cambridge University Press.

[**CompMath2022**] Schiffer variations and the generic Torelli theorem for hypersurfaces, Compositio Mathematica,Volume 158, Issue 1, pp. 89 - 122.

[**AiM2022**] On the Lefschetz standard conjecture for Lagrangian covered hyper-Kähler varieties, Advances in Mathematics 396 (2022).

[**GeoTop2022**] On the coniveau of rationally connected threefolds, arXiv:2010.05275,to appear in Geometry and Topology

[**BUMI2022**] Compact Kähler manifolds with no projective specialization, arXiv:2101.01075 à paraître au Bollettino Unione Matematica Italiana, (volume in honour of F. Catanese).

[**MZ2022**] Footnotes to papers of O'Grady and Markman Mathematische Zeitschrift volume 300, pages 3405–3416 (2022), (volume in honour of Olivier Debarre).

[**PAMQClemens**] (with G. Oberdieck et J. Song) Hilbert schemes of K3 surfaces, generalized Kummer, and cobordism classes of hyper-Kähler manifolds, arXiv:2110.02211, to appear in PAMQ, Clemens volume.

[**RevMathArgentina**] On fibrations and measures of irrationality of hyper-Kähler manifolds, arXiv:2201.07037, to appear in Revista Mat. Argentina, MCA volume.

[**JAMS2023**] (with O. Debarre, D. Huybrechts, E. Macrì) Computing Riemann-Roch polynomials and classifying hyper-Kähler fourfolds, arXiv:2201.08152, to appear in JAMS.

[**CollinoMem**] Geometric representability of 1-cycles on rationally connected threefolds, preprint arXiv:2208.12557, à paraître dans Perspectives on four decades: Algebraic Geometry 1980—2020. In memory of Alberto Collino, Birkhäuser.

Preprints.

[1] On Chern classes of Lagrangian fibered hyper-Kähler manifolds, arXiv:2305.09396

[2] (with A. Beauville, A. Etesse, A. Höring et J. Liu) Symmetric tensors on the intersection of two quadrics and Lagrangian fibration, preprint arXiv:2304.10919.

[3] Cycle classes on abelian varieties and the geometry of the Abel-Jacobi map, preprint arXiv:2212.03046

II. Articles de synthèse et notes de cours

[**ICM94**] Variations of Hodge structure and algebraic cycles , Actes du congrès international des mathématiciens , Zürich, (1994).

[**CIME94**] Cours du C.I.M.E. *Algebraic cycles and Hodge theory*, en collaboration with M.Green et J.P.Murre , Lecture Notes in Mathematics , Springer verlag (1994).

[**Pano96**] *Symétrie miroir*, Panoramas et syntheses , 1996.

[**VHSCY98**] *Variations of Hodge structure of Calabi-Yau threefolds*, Publication de la scuola Normale superiore di Pisa, 1998.

[**Courspe02**] *Théorie de Hodge et géométrie algébrique complexe* , Cours spécialisés 10, SMF 2002. Traduction *Hodge Theory and complex algebraic geometry I and II*, Cambridge University Press 2002-3.

[**Curdev**] On some problems of Kobayashi and Lang ; algebraic approaches, Current Developments in Mathematics 2003, no. 1 (2003), 53-125.

[**ECM04**] Recent progresses in Kähler and complex algebraic geometry, in *European Congress of Mathematics*, Laptev, A. (ed.) Stockholm, Sweden, June 27–July 2, 2004. Zürich: European Mathematical Society (2005).

[**Takagi07**] Some aspects of the Hodge conjecture, Notes for the Takagi lectures, Kyoto, Jpn. J. Math. 2 (2007), no. 2, 261–296.

[**Bour07**] Géométrie des espaces de modules de courbes et de surfaces K3, d'après Gritsenko-Hulek-Sankaran, Farkas-Popa, Mukai, Verra, exposé au séminaire Bourbaki, juin 2007.

[**Riem08**] Algebraic geometry versus Kähler geometry, Milan J. Math. Vol. 78 (2010) 85-116.

[**Moduli13**] Hodge loci, in Handbook of moduli (Eds G. Farkas and I. Morrison), Advanced Lectures in Mathematics 25, Volume III, International Press, 507-546.

[**ICM10**] On the cohomology of algebraic varieties, Proceedings of the International Congress of Mathematicians (Hyderabad, India, 2010), Vol. I, 476-503.

[**Bour11**] (Exposé au séminaire Bourbaki) Sections rationnelles de fibrations sur les surfaces et conjecture de Serre (d'après de Jong, He et Starr), Séminaire BOURBAKI, 63ème année, 2010-2011, no 1038.

[**PUP14**] *Chow rings, decomposition of the diagonal and the topology of families*, Annals of Math Studies, Study 187, Princeton University Press 2014. -

[**Riemann16**] Hodge Structures, Coniveau and Algebraic Cycles, in The Legacy of Bernhard Riemann After One Hundred and Fifty Years, ALM35, Higher Education Press and International Press, Beijing–Boston, pp. 719–745 (2016).

[**SurvDiffGeom16**] Stable birational invariants and the Lüroth problem, Surveys in Differential Geometry XXI, International Press 2016.

[**Gargnano18**] Birational invariants and decomposition of the diagonal, dans *Birational geometry of hypersurfaces*, Eds. A. Hochenegger, M. Lehn, P. Stellari, Lecture Notes of the Unione Matematica Italiana 26, Springer, pp. 3-71 (2019).