

**Publication list.**  
Misha Verbitsky, October 2016<sup>1</sup>

**Papers submitted**

1. Daniele Angella, Adriano Tomassini, Misha Verbitsky, *On non-Kähler degrees of complex manifolds*, arXiv:1605.03368
2. Ekaterina Amerik, Misha Verbitsky, *Collections of parabolic orbits in homogeneous spaces, homogeneous dynamics and hyperkähler geometry*, arXiv:1604.03927
3. Ekaterina Amerik, Misha Verbitsky, *Construction of automorphisms of hyperkähler manifolds*, arXiv:1604.03079
4. Ljudmila Kamenova, Misha Verbitsky, *Algebraic non-hyperbolicity of hyperkahler manifolds with Picard rank greater than one*, arXiv:1604.02601
5. Anna Fino, Gueo Grantcharov, Misha Verbitsky, *Algebraic dimension of complex nilmanifolds*, arXiv:1603.01877
6. Liviu Ornea, Misha Verbitsky, *Hopf surfaces in locally conformally Kahler manifolds with potential*, arXiv:1601.07421
7. Fedor Bogomolov, Ljudmila Kamenova, Steven Lu, Misha Verbitsky, *On the Kobayashi pseudometric, complex automorphisms and hyperkähler manifolds*, arXiv:1601.04333
8. Misha Verbitsky, *Transcendental Hodge algebra*, arXiv:1512.01011
9. Ekaterina Amerik, Misha Verbitsky *Hyperbolic geometry of the ample cone of a hyperkahler manifold*, arXiv:1511.02403
10. Liviu Ornea, Misha Verbitsky, Victor Vuletescu, *Weighted Bott-Chern and Dolbeault cohomology for LCK-manifolds with potential*, arXiv:1504.01501
11. Gueo Grantcharov, Mehdi Lejmi, Misha Verbitsky, *Existence of HKT metrics on hypercomplex manifolds of real dimension 8*, arXiv:1409.3280
12. Ekaterina Amerik, Misha Verbitsky, *Morrison-Kawamata cone conjecture for hyperkahler manifolds*, arXiv:1408.3892
13. Taras Panov, Yuri Ustinovsky, Misha Verbitsky, *Complex geometry of moment-angle manifolds*, arXiv:1308.2818

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## Journal articles

- [1] Verbitsky M. *On the action of a Lie algebra  $SO(5)$  on the cohomology of a hyperkähler manifold*, Func. Analysis and Appl. 24(2) pp. 70-71 (1990).
- [2] Verbitsky M., *Hyperholomorphic bundles over the hyperkähler manifolds*, Journ. of Alg. Geom., 5 no. 4 (1996) pp. 633-669.
- [3] Verbitsky M., *Hyperkähler and holomorphic symplectic geometry I*, Journ. of Alg. Geom., vol. 5 no. 3 pp. 401-415 (1996).
- [4] Verbitsky, M., *Trianalytic subvarieties of hyperkaehler manifolds*, GAFA vol. 5 no. 1 (1995) pp. 92-104
- [5] Misha Verbitsky, *Cohomology of compact hyperkähler manifolds and its applications*, GAFA vol. 6 no. 4 pp. 601–612 (1996)
- [6] Kaledin, D., Verbitsky, M., *Non-Hermitian Yang-Mills connections*, Selecta Math. 4 (1998) 279-320
- [7] Verbitsky M., *Algebraic structures on a hyperkähler manifold*, Math. Res. Lett. 3 763-767, 1996
- [8] Misha Verbitsky, *Deformations of trianalytic subvarieties of hyperkähler manifolds*, Selecta Math., New ser. 4 (1998) 447-490
- [9] Verbitsky M., *Desingularization of singular hyperkähler varieties I*, Math. Res. Lett. 4 (1997), no. 2-3, pp. 259–271.
- [10] Verbitsky M., *Hypercomplex Varieties*, Comm. Anal. Geom. 7 (1999), no. 2, 355–396.
- [11] Verbitsky M., *Trianalytic subvarieties of the Hilbert scheme of points on a K3 surface*, GAFA, Vol. 8 (1998) 732-782.
- [12] Kaledin D., Verbitsky M., *Trianalytic subvarieties of generalized Kummer varieties*, Int. Math. Res. Not. 1998, No. 9, 439–461.
- [13] Verbitsky M., *Wirtinger numbers and holomorphic symplectic immersions*, Selecta Math. (N.S.) 10 (2004), no. 4, 551–559.
- [14] M. Verbitsky, *Holomorphic symplectic geometry and orbifold singularities*, math.AG 9903175 (17 pages, LaTeX 2e), published in Asian Journ. of Math., Vol. 4 (2000), No. 3, pp. 553-564
- [15] D. Kaledin, M. Verbitsky, *Period map for non-compact holomorphically symplectic manifolds*, math.AG/0005007, GAFA 12 (2002), no. 6, 1265–1295.
- [16] M. Verbitsky, *Hyperkähler manifolds with torsion, supersymmetry and Hodge theory*, math.AG/0112215, Asian J. of Math., Vol. 6, No. 4, pp. 679-712 (2002)
- [17] M. Verbitsky, *Coherent sheaves on general K3 surfaces and tori*, math.AG/0205210, Pure Appl. Math. Q. 4 (2008), no. 3, part 2, 651–714.

- [18] M. Verbitsky, *Vanishing theorems for locally conformal hyperkähler manifolds*, math.DG/0302219, 41 pages, Proc. of Steklov Institute, vol. 246, 2004, pp. 54-79
- [19] M. Verbitsky, *Hyperkähler manifolds with torsion obtained from hyperholomorphic bundles* math.DG/0303129, Math. Res. Lett. 10 (2003), no. 4, 501–513.
- [20] L. Ornea, M. Verbitsky, *Structure theorem for compact Vaisman manifolds*, math.DG/0305259, Math. Res. Lett., 10(2003), no. 5-6, 799-805
- [21] L. Ornea, M. Verbitsky, *Immersion theorem for Vaisman manifolds*, 28 pages, Math. Ann. 332 (2005), no. 1, 121–143.
- [22] Verbitsky, M., *Subvarieties in non-compact hyperkähler manifolds*, math.AG/0312520, Math. Res. Lett. vol. 11 (2004), no. 4, pp. 413-418
- [23] Verbitsky, M., *Stable bundles on positive principal elliptic fibrations*, 17 pages, Math. Res. Lett. 12 (2005), no. 2-3, 251–264.
- [24] Verbitsky, M., *Hypercomplex structures on Kähler manifolds*, math.AG/0406390, 10 pages, GAFA 15 (2005), no. 6, pp. 1275-1283
- [25] Verbitsky, M., *Holomorphic bundles on diagonal Hopf manifolds*, 20 pages, math.AG/0408391, Izvestiya Math., 2006, **70**, no. 5, pp. 13-31.
- [26] Misha Verbitsky, *An intrinsic volume functional on almost complex 6-manifolds and nearly Kaehler geometry*, arXiv:math/0507179, Pacific J. of Math., Vol. 235, No. 2 (2008), 323-344
- [27] Semyon Alesker, Misha Verbitsky, *Plurisubharmonic functions on hypercomplex manifolds and HKT-geometry*, 34 pages, Journal of Geometric Analysis, **16**, 3, Sep. 2006, pp. 375-400
- [28] Verbitsky, M., *Quaternionic Dolbeault complex and vanishing theorems on hyperkahler manifolds*, math.AG/0604303, Compos. Math. 143 (2007), no. 6, 1576–1592.
- [29] L. Ornea, M. Verbitsky, *Sasakian structures on CR-manifolds*, math.DG/0606136, 23 pages, Geom. Dedicata 125 (2007), 159–173.
- [30] Liviu Ornea, Misha Verbitsky, *Einstein-Weyl structures on complex manifolds and conformal version of Monge-Ampere equation*, Bull. Math. Soc. Sci. Math. Roumanie (N.S.) 51(99) (2008), no. 4, 339–353.
- [31] Liviu Ornea, Misha Verbitsky, *Embeddings of compact Sasakian manifolds*, math.DG/0609617, 10 pages, Math. Res. Lett. 14 (2007), no. 4, 703–710.
- [32] Misha Verbitsky, *Positive toric fibrations*, J. Lond. Math. Soc. (2) 79 (2009), no. 2, 294–308.

- [33] Liviu Ornea, Misha Verbitsky, *Morse-Novikov cohomology of locally conformally Kähler manifolds*, arXiv:0712.0107, J. Geom. Phys. 59 (2009), no. 3, 295–305.
- [34] Maria Laura Barberis, Isabel G. Dotti, Misha Verbitsky, *Canonical bundles of complex nilmanifolds, with applications to hypercomplex geometry*, Math. Res. Lett. 16 (2009), no. 2, 331–347.
- [35] Misha Verbitsky, *Balanced HKT metrics and strong HKT metrics on hypercomplex manifolds*, Math. Res. Lett. 16 (2009), no. 4, 735–752.
- [36] L. Ornea, M. Verbitsky, *Locally conformal Kähler manifolds with potential*, math.AG/0407231, Mathematische Annalen, Vol. 248 (1), 2010, pp. 25-33.
- [37] Ruxandra Moraru, Misha Verbitsky, *Stable bundles on hypercomplex surfaces*, math.DG/0611714, Cent. Eur. J. Math. 8 (2010), no. 2, 327–337
- [38] Misha Verbitsky, *Plurisubharmonic functions in calibrated geometry and  $q$ -convexity*, arXiv:0712.4036, Math. Z., Vol. 264, No. 4, pp. 939-957 (2010)
- [39] Misha Verbitsky, *Positive forms on hyperkahler manifolds*, arXiv:0801.1899, Osaka J. Math. Volume 47, Number 2 (2010), 353-384
- [40] Semyon Alesker, Misha Verbitsky, *Quaternionic Monge-Ampere equation and Calabi problem for HKT-manifolds*, arXiv:0802.4202, Israel Journal of Mathematics, Vol. 176, Number 1 (2010), 109-138
- [41] Misha Verbitsky, *Hyperkahler SYZ conjecture and semipositive line bundles*, arXiv:0811.0639, GAFA 19, No. 5, 1481-1493 (2010)
- [42] Liviu Ornea, Misha Verbitsky, *Topology of locally conformally Kähler manifolds with potential*, Int. Math. Res. Not. 2010, No. 4, 717-726 (2010)
- [43] Verbitsky, M., *Manifolds with parallel differential forms and Kähler identities for  $G_2$ -manifolds*, Journal of Geometry and Physics, vol. 61 (6), pp. 1001-1016 (2011).
- [44] Verbitsky, M., *A CR twistor space of a  $G_2$ -manifold*, Differential Geometry and its Applications, Vol. 29, pp. 101-107 (2011).
- [45] Misha Verbitsky, *Hyperholomorphic connections on coherent sheaves and stability*, Central European Journal of Mathematics, vol. 9 (3). pp. 535-557 (2011).
- [46] M. Verbitsky *Hodge theory on nearly Kaehler manifolds*, Geometry and Topology, 2011, No. 15. pp. 2111-2133
- [47] Jardim M., Verbitsky, M. *Moduli spaces of framed instanton bundles on  $CP^3$  and twistor sections of moduli spaces of instantons on  $C^2$* , Adv. Math., 2011, No. 227. pp. 1526-1538.

- [48] Ornea L., Verbitsky, M., *Oeljeklaus-Toma manifolds admitting no complex subvarieties*, Mathematical Research Letters, 2011, No. 04 (18). pp. 747-754.
- [49] Liviu Ornea, Misha Verbitsky, *Automorphisms of locally conformally Kahler manifolds*, Int. Math. Res. Not. 2012, no. 4, 894-903.
- [50] Andrey Soldatenkov, Misha Verbitsky, *Subvarieties of hypercomplex manifolds with holonomy in  $SL(n,H)$* , Journal of Geometry and Physics, Volume 62, Issue 11, November 2012, Pages 2234-2240.
- [51] Misha Verbitsky, *A formally Kahler structure on a knot space of a G2-manifold*, Sel. Math. New. Ser. (2012) 18:539-555
- [52] Liviu Ornea, Misha Verbitsky, Victor Vuletescu, *Blow-ups of locally conformally Kahler manifolds*, Int. Math. Res. Not. IMRN 2013, no. 12, 2809-2821.
- [53] Gueo Grantcharov, Misha Verbitsky, *Calibrations in hyperkahler geometry*, Commun. Contemp. Math. 15 (2013), no. 2, 1250060, 27 pp.
- [54] Misha Verbitsky, *Pseudoholomorphic curves on nearly Kahler manifolds*, Communications in Mathematical Physics November 2013, Volume 324, Issue 1, pp 173-177.
- [55] Liviu Ornea, Misha Verbitsky, *Locally conformally Kahler manifolds admitting a holomorphic conformal flow*, Mathematische Zeitschrift, Volume 273, Issue 3 (2013), Page 605-611.
- [56] Verbitsky, M., *A global Torelli theorem for hyperkähler manifolds*, Duke Math. J. Volume 162, Number 15 (2013), 2929-2986.
- [57] Anan'in, Sasha; Verbitsky, Misha, *Any component of moduli of polarized hyperkähler manifolds is dense in its deformation space*, J. Math. Pures Appl. (9) 101 (2014), no. 2, 188-197.
- [58] Verbitsky, Misha, *Rational curves and special metrics on twistor spaces*, Geom. Topol. 18 (2014), no. 2, 897-909.
- [59] Kamenova, Ljudmila; Verbitsky, Misha, *Families of Lagrangian fibrations on hyperkähler manifolds*, Adv. Math. 260 (2014), 401-413.
- [60] Campana, Frédéric; Demainly, Jean-Pierre; Verbitsky, Misha, *Compact Kähler 3-manifolds without nontrivial subvarieties*, Algebr. Geom. 1 (2014), no. 2, 131-139.
- [61] Kamenova, Ljudmila; Lu, Steven; Verbitsky, Misha, *Kobayashi pseudo-metric on hyperkähler manifolds*, J. Lond. Math. Soc. (2) 90 (2014), no. 2, 436-450.
- [62] Verbitsky, Misha, *Holography principle for twistor spaces*, Pure Appl. Math. Q. 10 (2014), no. 2, 325-354.

- 
- [63] Marcos Jardim, Misha Verbitsky, *Trihyperkahler reduction and instanton bundles on  $CP^3$* , Compositio Mathematica, Volume 150, Issue 11, November 2014, pp 1836-1868
  - [64] Verbitsky, Misha, *Degenerate twistor spaces for hyperkahler manifolds*, Journal of Geometry and Physics Volume 91, Pages 2-11, 2015
  - [65] Ekaterina Amerik, Misha Verbitsky, *Teichmuller space for hyperkahler and symplectic structures*, J. Geom. Phys. 97 (2015), 44-50.
  - [66] Andrey Soldatenkov, Misha Verbitsky,  *$k$ -symplectic structures and absolutely trianalytic subvarieties in hyperkahler manifolds*, J. Geom. Phys. 92 (2015), 147-156.
  - [67] Andrey Soldatenkov, Misha Verbitsky *Holomorphic Lagrangian fibrations on hypercomplex manifolds*, Int Math Res Notices 2015 (4): 981-994.
  - [68] Misha Verbitsky, *Ergodic complex structures on hyperkahler manifolds*, Acta Mathematica, September 2015, Volume 215, Issue 1, pp 161-182.
  - [69] Amerik, E.; Verbitsky, M., *Rational curves on hyperkähler manifolds*, Int. Math. Res. Not. IMRN 2015, no. 23, 13009-13045.
  - [70] Liviu Ornea, Misha Verbitsky, *Locally conformally Kahler metrics obtained from pseudoconvex shells*, Proc. Amer. Math. Soc. 144 (2016), 325-335
  - [71] Amerik, Ekaterina; Verbitsky, Misha, *Hyperbolic geometry of the ample cone of a hyperkähler manifold*, Res. Math. Sci. 3 (2016), Paper No. 7, 9 pp
  - [72] Ornea, Liviu; Verbitsky, Misha, *LCK rank of locally conformally Kähler manifolds with potential*, J. Geom. Phys. 107 (2016), 92-98.

### Book chapters, conference proceedings

- [1] Kazhdan D., Verbitsky M., *Cohomology of restricted quantized universal enveloping algebras*, Quantum Deformations of Algebras and Their Representations, vol. 7 of Isr. Math. Conf. Proc. (1993)
- [2] M. Verbitsky, *Mirror Symmetry for hyperkähler manifolds*, AMS/IP Stud. Adv. Math. 10 (1999) 115-156
- [3] M. Verbitsky, *Singularities in hyperkähler geometry*, Proceedings of the Second Meeting on Quaternionic Structures in Mathematics and Physics, Roma, Italy September 6-10, 1999, <http://www.emis.de/proceedings/QSMP99/>
- [4] Verbitsky, M., *Coherent sheaves on generic compact tori*, math.AG/0310329, CRM Proc. and Lecture Notices vol. 38 (2004), 229-249

- [5] Misha Verbitsky, *Hypercomplex manifolds with trivial canonical bundle and their holonomy*, math.DG/0406537, 13 pages, “Moscow Seminar on Mathematical Physics II”, Translations of AMS, vol. 221 (2007).
- [6] Liviu Ornea, Misha Verbitsky, *A report on locally conformally Kähler manifolds*, Harmonic Maps and Differential Geometry, E. Loubeau and S. Montaldo eds., Contemporary Mathematics, 2011. Vol. 542. 284 pp.
- [7] Misha Verbitsky, *Teichmüller spaces, ergodic theory and global Torelli theorem*, Proceedings of ICM (2014), Vol. 2014 No. 2, pp. 793-811.

## Books

- Verbitsky, Misha; Kaledin, Dmitri *Hyperkahler manifolds*. Mathematical Physics (Somerville), 12. International Press, Somerville, MA, 1999. iv+257 pp. ISBN: 1-57146-071-3
- “Topology for first-year students”, by M. Verbitsky (in Russian), 370 pp, Independent University of Moscow Press, 2017  
<http://verbit.ru/MATH/UCHEBNIK/top-book.pdf>