

List of publications of Igor V. Dolgachev

I. RESEARCH PAPERS

1. *On rational surfaces with a pencil of elliptic curves*, Izv. AN SSSR, Ser. Math., 30 (1966), 1073-1100.
2. *On Severi's conjecture on simply connected algebraic surfaces*, Doklady AN SSSR, 170, (1966), 249-252.
3. (with A. Parshin) *The different and the discriminant of regular mappings*, Mat. Zametki, 4 (1968), 519-524.
4. *On the purity of the set of singular points of a morphism of schemes*, Doklady AN SSSR, 188, (1969), 724-744.
5. *On the purity of degeneration loci of families of curves*, Invent. Math. 8 (1969), 34-54.
6. *The Euler characteristic of a family of algebraic varieties*, Mat. Sbornik, 89 (1972), 297-312.
7. *On special K3 surfaces. I*, Izv. Akad. Nauk SSSR Ser. Mat. 37 (1973), 844-887.
8. *Quotient-conical singularities of complex surfaces*, Funkt. Analysis y Priloz., 8 (1974), 75-76.
9. (with B. Weisfeiler) *Unipotent group schemes over integral domains*, Izv. AN SSSR, Ser. Math., 38 (1974), 757-799.
10. *Automorphic forms and quasi-homogeneous singularities*, Funkt. Analysis y Priloz., 9 (1975), 67-68.
11. (with V. Nikulin) *Unimodal Arnol'd singularities and algebraic K3 surfaces*, Proc. All-Union Topological Conference, Minsk. 1977.
12. *Newton polyhedra and factorial rings*, J. Pure Appl. Algebra, 18 (1980), 253-258 [Correction: 21 (1981), 9-10].
13. *Cohomologically insignificant degenerations of algebraic varieties*, Comp. Math., 42 (1981), 279-313.

14. (with A. Libgober) *On the fundamental group of the complement to a discriminant variety*, in “Algebraic geometry”, Lect. Notes in Math., vol. 862, Springer-Verlag, 1981, pp. 1-25.
15. *On algebraic surfaces with $q = p_g = 0$* , in “Algebraic Surfaces, CIME Summer Institute, Cortona (1977), Liguori Ed., Napoli 1981, pp.97-217.
16. *Weighted projective varieties*, in “Group Actions and Vector Fields,”, Lect. Notes in Math., 956, Springer-Verlag, 1982, pp. 34-72.
17. *Weyl groups and Cremona transformations*, in “Singularities”, Proc, Symp. Pure Math. vol. 40, Part I, A.M.S. 1983, pp. 283-294.
18. *On the link space of a Gorenstein surface singularity*, Math. Ann., 265, (1983), 529-540.
19. *On algebraic properties of algebras of automorphic forms*, in “Modular Functions in Analysis and Number Theory, Lect. Notes of Univ. Pittsburg, v. 5 (1983), 20-29.
20. *Integral quadratic forms: applications to algebraic geometry*, Sem. Bourbaki 1982/83, Exp. 611, Asterisque, 105 (1983), 251-278.
21. *On automorphisms of Enriques surfaces*, Invent. Math., 76 (1984), 163-177.
22. (with N. Goldstein) *On the Springer resolution of the minimal unipotent conjugacy class*, J. Pure Appl. Algebra, 32, (1984), 33-47.
23. (with F. Cossec) *Smooth rational curves on Enriques surfaces*, Math. Ann., 272 (1985), 369-384.
24. (with F. Cossec) *On automorphisms of nodal Enriques surfaces*, Bull. A.M.S., 12 (1985), 247-249.
25. *Infinite Coxeter groups and automorphisms of algebraic surfaces*, Contemp. Math., 58 (1986), 91-106.
26. *Rationality of fields of invariants*, in “Algebraic Geometry”, Proc, Symp. Pure Math. vol. 46, Part II, A.M.S. 1987, pp. 3-16.
27. *Enriques surfaces: what is left*, in “Problems in the theory of surfaces”, Symp. Math., vol. 32, Acad. Press, 1991, pp. 81-90.
28. *Enriques surfaces: old and new*, in “Geometry and Complex variables”, M. Dekker, Inc., New York, 1991, pp. 165-178.
29. (with I. Reider) *On rank 2 vector bundles with $c_1 = 10$ and $c_2 = 3$ on Enriques surfaces*, in “Algebraic geometry. Proc. Chicago Conference. 1989”, Lect. Notes in Math., vol. 1479, Springer-Verlag, 1991, pp. 39-49.
30. (with V. Kanev) *Polar covariants of cubics and quartics*, Advances in Math., 98 (1993), 216-301.

31. (with M. Kapranov) *Arrangements of hyperplanes and vector bundles over P^n* , Duke Math. J., 71 (1993), 633-664.
32. (with M. Kapranov) *Schur quadrics, cubic surfaces and rank 2 vector bundles over the projective plane*, in “Journées de Géométrie Algébrique d’Orsay, Juillet 1992”, Astérisque, vol. 218, Soc. Math. de France, 1993, pp.111-144.
33. (with M. Gross) *Elliptic three-folds: Ogg-Shafarevich theory, I*, J. Alg. Geometry, 3 (1994), 39-80.
34. (with V. Lunts) *A character formula for the representation of a Weyl group in the cohomology of the associated toric variety*, J. Algebra, 168 , No 3 (1994), 741-772.
35. *Mirror symmetry for lattice polarized K3 surfaces*, Journal of Math. Sciences, v. 81 (1996), 2599-2630
36. (with Yi Hu) *Variation of geometric invariant theory quotients*, Publ. Math. de l’IHES, v. 87, (1998), 5–51.
37. *Invariant vector bundles over the modular curve $X(p)$* , Proceedings of ”Recent Progress in Algebra”, Taejon, Korea, August 1997, Contemp. Mathematics, v. 224, 1998, pp. 65-100.
38. (with C. Werner) *A simply connected numerical Godeaux surface with ample canonical class*, Journal of Algebraic Geometry, v. 8 (1999), 737-764 [Erratum: J. Alg. Geometry, 10 (2001), 397] .
39. *Polar Cremona transformations*, Mich. Math. J. , vol. 48, (2000), 191-202.
40. (with J. Keum) *Wild p -cyclic actions on K3 surfaces*, J. Alg. Geom., vol. 10 (2001), 101-131.
41. (with D.-Q. Zhang) *Coble rational surfaces*, Amer. Math. J., vol. 123 (2001), 79-114.
42. Appendix to “Automorphisms of finite order on rational surfaces” by D.-Q. Zhang, J. Algebra, 238 (2001), 560-589.
43. (with J. Keum) *Birational automorphisms of quartic Hessian surfaces*, Trans. A.M.S., 354 (2002), 3031-3057.
44. (with M. Mendes Lopes and R. Pardini) *Rational surfaces with many nodes*, Compositio Math., 132 (2002), 349-363.
45. (with S. Kondo) *A supersingular K3 surface in characteristic 2 and the Leech lattice*, Internat. Math. Res. Notices, 2003, No 1 (2003), 1-23.
46. *On certain families of elliptic curves in projective space*, Ann. Mat. Pura Appl. (4), 1983 (2004), 317-313.
47. *Abstract configurations in algebraic geometry*. in “The Fano Conference”, Univ. of Torino.

2004, pp. 423-462.

48. Appendix to “Correspondences between K3 surfaces” , by F. Galluzzi and G. Lombardo, *Mich. Math. J.* , 52 (2004), 163-184.

49. *Dual homogeneous forms and varieties of power sums*, *Milan J. Math.*, 72 (2004), 163-187.

50. (with B. van Geemen and S. Kondō) *A complex ball uniformization of the moduli space of cubic surfaces via periods of K3 surfaces*, *Journ. für Reine und Angew. Math.* v. 558 (2005), 99–148.

51. (with S. Kondō) *Moduli spaces of K3 surfaces and complex ball quotients*, *Arithmetic and Geometry Around Hypergeometric Functions Lecture Notes of a CIMPA Summer School held at Galatasaray University, Istanbul, 2005* Birkhäuser Verlag Basel, Series: Progress in Mathematics , Vol. 260, 2007, pp. 43–100.

52. *Logarithmic sheaves attached to arrangements of hyperplanes*, *J. Math. Kyoto Univ.* 47 (2007), 35–64.

53. *Reflection groups in algebraic geometry*, *Bull. A.M.S.* 45 (2008), 1–60.

55. *Rationality of \mathcal{R}_2 and \mathcal{R}_3* , *Pure and Applied Math. Quart. J.* 4 (2008), 501–508.

56. (with D. Lehavi) *On isogenous principally polarized abelian surfaces*. in “Curves and abelian varieties”, *Contemp. Math.*, 465, 2008 (51–69).

57. (with J. Keum) *Finite symplectic groups of automorphisms of K3 surfaces in positive characteristic*, *Annals of Math.* 169 (2009), 269–313.

58. *On elements of order p^s in the plane Cremona group over a field of characteristic p* . *Tr. Mat. Inst. Steklova* 264 (2009), *Mnogomernaya Algebraicheskaya Geometriya*, 5562.

59. (with J. Keum) *K3 surfaces with a symplectic automorphism of order 11*, *J. European Math.* **11**, Issue 4 (2009), 799–818.

60. (with M. Artebani) *The Hesse pencil of plane cubic curves*, *L’Enseign. Math.*, **55** (2009), 235–273.

61. (with V. Iskovskikh) *On elements of prime order in the plane Cremona group over a perfect field*, *Int. Math. Res. Notices*, **2009** (2009), 3467-3485.

62. *McKay’s correspondence for cocompact discrete subgroups of $SU(1,1)$* , *Groups and symmetries*, 111–133, CRM Proc. Lecture Notes, 47, Amer. Math. Soc., Providence, RI, 2009.

63. (with V. Iskovskikh) *Finite subgroups of the plane Cremona group*, , ”Algebra, arithmetic and geometry: in honor of Yu. I.Manin”. Vol. I, 443–548, Progress in Math., 269, Birkhäuser Boston, 2009.

64. *Finite subgroups of the plane Cremona group*, Algebraic Geometry in East Asia–Seoul 2008, Adv. Studies in Pure Math., 60, 1–49, 2010.

65. *Cremona special sets of points in product of projective spaces*, Complex and Differential Geometry, Conference held at Leibniz Universität Hannover, September 14-18, 2009, to appear.

II. BOOKS

1. (with D. Ortland) *Points Sets in Projective Spaces and Theta Functions*, Astérisque, vol. 165, 1988, 210 pages.

2. (with F. Cossec) *Enriques Surfaces, I*, Progress in Math. vol. 72, Birkhäuser Verlag, 1989, 397 pages.

3. *Introduction to Geometric Invariant Theory*, Lecture Notes Series, No 25, Research Institute of Mathematics, Global Analysis Research Center, Seoul National University, 1994, 137 pages.

4. *Lectures on Invariant Theory*, LMS Lecture Notes Series 296, Cambridge Univ. Press, 2003, 225 pages (2nd reprint).

III. LECTURE NOTES (www.math.lsa.umich.edu/~idolga/lecturenotes.html)

1. *Topics in classical algebraic geometry*, 524 pages.

2. *Modular forms*, 142 pages

3. *Introduction to Physics for Mathematicians*, 285 pages.

4. *Introduction to Algebraic geometry*, 143 pages.

5. *McKay correspondence*, 161 pages.

IV. OTHER

1. *Abstract algebraic geometry*, Itogi Nauki i Techniki, Algebra, Topology, Geometry, 10 (1972), 47-112 [Engl. Translation: J. Soviet Math., 2 (1974), 264-303].

2. (with V. Iskovskih) *Geometry of algebraic varieties*, Itogi Nauki i Techniki, Algebra, Topology, Geometry, 12 (1974), 77-170 [Engl. Translation: J. Soviet Math., 5 (1976), 803-864].

3. *Luigi Cremona and cubic surfaces*, in “Luigi Cremona (1830-1903), Convegno di studi matematici, Istituto Lombardo, Incontra di studi, n.36, (2005) (math. AG/0408283).

4. *The geometry of schemes*, by D. Eisenbud and J. Harris, book review, Bull. Amer. Math. Soc. 38 (2001), 467-473.

5. 40 articles in Encyclopaedia of Mathematics, ed. M.Hazewinkel.
6. 568 reviews for Mathematical Reviews.
7. 122 reviews for Zentralblatt fur Mathematik.