

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. Kondō) *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. *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).
52. (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.
53. *Logarithmic sheaves attached to arrangements of hyperplanes*, J. Math. Kyoto Univ. 47 (2007), 35–64.
54. *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* . Trudy Mat. Inst. Steklova 264 (2009), Mnogomernaya Algebraicheskaya Geometriya, 55–62 [reprinted in Proc. Steklov Inst. Math. **264** (2009), 48–55.
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,

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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, Springer, 2011, pp. 115–134.
66. (with S. Cantat) *Rational surfaces with a large group of automorphisms* J. Amer. Math. Soc. 25 (2012), No. 3, 863–905
67. (with S. Kondō) *Rationality of moduli spaces of Coble surfaces and general nodal Enriques surfaces*, Izv. Russ. Akad. Nauk, Ser. Mat. **77** (2013), 77–92.
68. *Numerical automorphisms of Enriques surfaces in arbitrary characteristic*, Arithmetic and geometry of K3 surfaces and Calabi-Yau threefold, ed. R. Lazus, M. Schütt, N. Yui, Fields Institute Communications, vol. 67, Springer. 2013, pp.267–284.
69. (with J. Blanc) *Automorphisms of cluster algebras of rank 2*. Transform. Groups 20 (2015), no. 1, 1–20.
70. (with B. Howard) *Configuration spaces of complex and real spheres*. Recent advances in algebraic geometry, 156–179, London Math. Soc. Lecture Note Ser., 417, Cambridge Univ. Press, Cambridge, 2015.
71. (with A. Duncan) *Fixed points of a finite subgroup of the plane Cremona group*. Algebr. Geom. **3** (2016), no. 4, 441–460.
72. *A brief introduction to Enriques surfaces*, Development of Moduli Theory-Kyoto 2013, Adv. Study in Pure Math. Math. Soc. 69, Math. Soc. Japan, 2016, pp. 1–32.
73. *Orbital counting of curves on algebraic surfaces and sphere packings*. K3 surfaces and their moduli, 17–53, Progr. Math., 315, Birkhäuser/Springer, 2016.
74. *Corrado Segre and nodal cubic surfaces*, From Classical to Modern Algebraic Geometry, ed. G. Casnati, A. Conte, L. Gatto, L. Giacardi, M. Marchisio, A. Verra, Birkhäuser, 2016, pp. 429–450.
75. *Rational self-maps of moduli spaces*, Pure and Appl. Math. Quarterly, **12**, No 3 (2016), 335–352.
76. *Salem numbers and Enriques surfaces*, Experimental Math. 27 (2018), no. 3, 287–301.
77. *Quartic surfaces with icosahedral symmetry*, Adv. Geometry, **18**, 2018, 119–132.
78. (with A. Duncan) *Regular pairs of quadratic forms on odd-dimensional spaces in characteristic 2*, Algebra and Number Theory 12–1 (2018), 99–130.
79. (with B. Farb and E. Looijenga) *Geometry of the Wiman-Edge pencil, I: algebro-geometric aspects*. Eur. J. Math. 4 (2018), no. 3, 879–930.
80. (with A. Duncan) *Automorphisms of cubic surfaces in positive characteristic*, Izv. Russian Acad. Sciences:Ser. Mat. 83:3 (2019), 5–82.
81. (with G. Martin) *Numerically trivial automorphisms of Enriques surfaces in characteristic 2*, Journal of the Math. Soc. Japan, **71**, No 4 (2019), 1181–1200.
82. (with I. Shimada) *15-nodal quartic surfaces. Part II: the automorphism group*, Rendiconti del Circolo Matematico di Palermo Series 2 **69** (2020), 1165–1191.
83. (with D. Allcock), *The tetrahedron and automorphisms of Enriques and Coble surfaces of Hessian type*, Annales Henri Lebesgue, **3** (2020), 1133–1159.
85. (with G. Martin), *Automorphism groups of rational elliptic and quasi-elliptic surfaces in all*

characteristics. Adv. Math. 400 (2022), Paper No. 108274, 46 pp

86. (with A. Laface, U. Persson, G. Urzua) *Chilean configuration of conics, lines and points*. Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) 23 (2022), no. 2, 877–914.

87. *Integral models and torsors of inseparable forms of \mathbb{G}_a* . Michigan Math. J. 72 (2022), 209–2424.

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).

5. *Classical algebraic geometry. A modern view*. Cambridge University Press, Cambridge, 2012. xii+639 pp.

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

1. *Modular forms*, 142 pages

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

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

4. *McKay correspondence*, 161 pages.

5. *Lectures on Cremona transformations*. Ann Arbor-Rome, 121 pages.

6. *Lectures on moduli and mirror symmetry of K3 surfaces*, Humburg. 27 pages.

7. *Endomorphisms of abelian varieties*, Milan, 133 pages.

8. *Hyperbolic geometry and algebraic geometry*. Seoul-Austin, 91 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. *The geometry of schemes*, by D. Eisenbud and J. Harris, book review, Bull. Amer. Math. Soc. 38 (2001), 467-473.

4. *Kummer surfaces: 200 years of study*. Notices Amer. Math. Soc. 67 (2020), no. 10, 1527–1533.

5. *The Cremona group and its subgroups* [book review of Julia Deserti book]. Bull. Amer. Math. Soc. (N.S.) 59 (2022), no. 4, 617–622

6. 40 articles in Encyclopaedia of Mathematics, ed. M.Hazewinkel.

7. 699 reviews for the Mathematical Reviews.

8. 122 reviews for Zentralblatt für Mathematik.