

Bugaev, Nicolay Vasilievich | Encyclopedia.com

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(*b.* Dusheti, near Tiflis [now Tbilisi], Russia, 14 September 1837; *d.* Moscow, Russia, 11 June 1903),

mathematics.

The son of a military physician, Bugaev was educated in Moscow, where he was sent at the age of ten and where, while a student, he had to work as a tutor. In 1855 he entered the Physical-Mathematical Faculty of Moscow University. After graduating in 1859, he studied at the Engineering Academy in [St. Petersburg](#) but returned to Moscow in 1861 and from then on devoted himself to mathematics. In 1863 Bugaev defended his master's thesis, on constructing a general theory of the convergence of infinite series, then for two and a half years continued his education abroad, studying at Berlin under Kummer and Weierstrass and at Paris under Liouville.

In 1866 Bugaev defended his doctoral dissertation, which dealt with numerical identities related to the properties of the symbol e . The following year he became professor at Moscow University, serving as dean of the Physical-Mathematical Faculty from 1886 until 1903.

Many of Bugaev's pupils, including N. Y. Sonin and D. F. Egorov, became prominent scholars. In the last quarter of the nineteenth century he exerted considerable influence upon the work of his faculty and the Moscow Mathematical Society, of which he was cofounder, vice-president (1886), and president (1891). Bugaev was one of the most regular contributors to *Matemaicheskii sbornik*, the society's journal, founded in 1866. Bugaev's proposal, that contributions to this journal by Russian authors always be published in Russian, led to the development of Russian mathematical terminology. As a proponent of the dissemination of mathematical knowledge and of the application of mathematics to technology, Bugaev was founder of the Society for Dissemination of Technological Knowledge in the late 1860's and headed its educational branch. He was elected a corresponding member of the [St. Petersburg](#) Academy of Sciences in 1898, and was an honorary member of numerous Russian and West European societies.

Bugaev's research was concerned mainly with mathematical analysis and [number theory](#). In [number theory](#) Bugaev deduced many identities important in various problems of applied mathematics. Using elliptic functions, he proved formulas of number theory that had been given without proof by Liouville. He also published articles on algebra, the theory of algebraic functions, and the theory of ordinary differential equations.

BIBLIOGRAPHY

I. Original Works. Bugaev's 76 books, articles, and reviews are listed in *Matemaicheskii sbornik*, **25**, no. 2 (1905), 370–373. Works published before 1890 are also listed in F.A. Brockhaus and I. A. Efron, eds., *Entsiklopedichesky slovar*, IVa (St. Petersburg, 1891), 827–829. A synopsis of Bugaev's writings published before 1892 is in E.Y. Shevelev, ed., "Kratkoe obozrenie uchenkh trudov professora N.V. Bugaeva (sosravlennoe im samim)" ("A Short Review of Scientific Works by Professor N.V. Bugaev [Compiled by Bugaev Himself]"). in *Istorike-matemaicheskije issledovaniya* (1959), no. 12, 525–558.

II. Secondary Literature Various aspects of Bugaev's work are treated in a group of articles in *Matemaicheskii sbornik*, **25** nos. 1–2 (1904–1905). Of especial interest are L.K. Lakhtin, "Nicolay Vasilievich Bugaev (biografichesky ocherk)" ("... Bugaev [a biographical Essay]") in no. 2, 251–269; and "Trudy N.V. Bugaeva v oblasti analiza" ("Bugaev's Works in the Area of Analysis") *ibid.*, 322–330; and A.P. Minin, "O trudakh N.V. Bugaeva po teorii chisel" ("On Bugaev's Works in Number Theory"), *ibid.*, 293–321.

Bugaev's work is also described in general histories of mathematics: L.E. Dickson, *History of the Theory of Number*, 2nd ed., 3 vols. (Washington, D.C., 1934), see index: *Istoria otechestvennoy matematiki* ("National History of Mathematics"), II (Kiev, 1967), 297–299; A.A. Kiselev and E.P. Ozhigova, "On the History of the Elementary Method in the Theory of Numbers", in *Actes du XI^e Congrès international d'histoire des sciences*, III (Wroclaw-Warsaw-Cracow, 1968), 244–249; and A.P. Youshkevitch, *Istoria matematiki v Rossii do 1917 goda* ("History of Mathematics in Russia Before 1917"; Moscow, 1968), 483–489.

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