

CURS and ARM sponsor the Avantgarde-XX conference

The [Cambridge University Russian Society](#) (CURS) proudly supported the XX Russian national conference in science and technology for gifted school-students [Avantgarde](#) which was held for 8 days in February 2011 at the elite Moscow schools [Intellectual](#) and [Chemical Lyceum](#).

The 83 participating students (26 female and 57 male) represented 23 schools from 13 cities (including Moscow, Novosibirsk and Saint-Petersburg) and villages of Russia, as well as from 2 specialised scientific centres working with gifted students of the Autonomous Republic of Crimea. At the conference opening, the participants were shown a warm video address from Cambridge recorded by Trustees of CURS.

The participants delivered 86 presentations in the following sections:

- Algebra, number theory, calculus (16)
- Applied and experimental mathematics (15)
- Elementary geometry (9)
- Computer Science (11)
- Theoretical and experimental physics (8)
- Chemistry, biochemistry and chemical physics (13)
- Biology (14)

An impartial jury, which predominantly consisted of professors of the [Lomonosov Moscow State University](#), awarded 12 first prizes, 13 second prizes, 19 third prizes for submitted papers and delivered presentations, as well as 31 special prizes for particular aspects of the papers. Over 50 special prizes were awarded according to the results of various intellectual competitions.

This year, [CURS](#), with a generous support from the leading provider of microprocessor technologies [ARM](#), offered one of the most coveted conference prizes—a trip to Cambridge—for a paper in computer science or mathematics.

This special prize was awarded to Alexei Mastov from the [Novosibirsk Gymnasium 2](#) for the paper “A mathematical model of forest fire spreading”, which he co-authored with his classmate Maxim Shevchenko. Congratulations, Alexei! We look forward to greeting you in Cambridge!

The conference sponsors—the Russian national school of mathematics and physics [Avantgarde](#), Dr Dmitry Zimin's Foundation [Dynasty](#), [Moscow Chemical Lyceum](#), the leading technology companies [Intel](#) and [ARM](#), and of course [CURS](#)—endowed the participants, laureates and winners of the conference with a vast amount of books on science and popular science, and souvenirs, to travel with their owners to the sticks of Russia.

The winner of the special CURS-ARM prize: Alexei Mastov.



The winners of the Avantgarde conference: the best papers' authors.



The best papers of the Avantgarde conference.

Student(s)	City	Title
Bolbachan Vasily	Moscow	Integral analogues of Guillera-Ser-Sondow's formulas as approximations to mathematical constants.
Rukhovich Alexei	Moscow	How do polyhedra (equivalent to the sphere) intersect in a 3D space.
Mastov Alexei, Shevchenko Maxim	Novosibirsk	A mathematical model of forest fire spreading.
Rudiev Viktor	Moscow	An automatic system for registration and 3D reconstruction of DICOM images.
Dolgirev Pavel	Moscow	On isogonal lines in a triangle.
Nikitin Mikhail	Yoshkar-Ola	Development of hardware and software for a robot.
Osmanov Gadzhi	Saint-Petersburg	The CSM technology in Microsoft Singularity .
Makarov Timofei	Crimea	Emulation of a bow in an electric guitar.
Schukin Mikhail	Ivanovo	An investigation of the Biefeld-Brown effect .
Goloveshkin Aleksandr, Ulianovskiy Aleksandr	Moscow	Investigating nanoparticles of platinum by experimental and computational methods.
Naumova Anastasia	Moscow	Oxidation of nitroso-acetal . A new method for modifying nitro-compounds .
Strelkova Daria	Moscow	Investigating natural viraemia in horses.