

In memoriam

**ALEXEY VLADIMIROVICH BORISOV**  
**1965–2021**

It was with great sadness that we learned that Professor Alexey Vladimirovich Borisov, a member of the Editorial Board of the journal *Theoretical and Applied Mechanics*, had passed away unexpectedly on January 24, 2021. Professor Borisov was a well-known expert in classical mechanics, hydrodynamics, and the theory of dynamical systems, a notable organizer of science in Russia, and a major promoter of scientific collaboration between Russian and Serbian scientists.



Alexey Borisov was born in Moscow on March 27, 1965 to the family of engineers. In 1988, after graduation from the Bauman Moscow State Technical University, he was assigned to the Barmin Design Bureau of Mechanical Engineering, Moscow. Alexey Borisov defended his PhD thesis entitled “Nonintegrability of the Kirchhoff Equations and Related Problems in Rigid Body Dynamics” under the supervision of Professor Valery Vasil’evich Kozlov in 1995. In 2001 he received the Russian Doctor of Sciences degree from the Faculty of Mechanics and Mathematics of Moscow State University with the thesis “Poisson Structures and Lie Algebras in Hamiltonian Mechanics”.

In the 1990s, Borisov moved to Izhevsk, as he got affiliated with Udmurt State University. He was a pivotal figure in establishing a new inter-university department, the Faculty of Information Technologies and also in the formation of the Institute of Computer Science in 2001. Today, the Izhevsk Institute of Computer Science is a leading national center dealing with problems of mechanics and nonlinear sciences with a strong international visibility. The Izhevsk team formed by Borisov grew and its range of interests widened: dynamical systems theory including both nonintegrable and integrable systems, Hamiltonian formalism, topological methods for investigating dynamical systems, rigid body dynamics, nonholonomic mechanics, vortex dynamics, etc. In each of these areas, A. V. Borisov and his team succeeded in obtaining remarkable results.

Professor Borisov was the supervisor of thirteen PhD theses. Among his students, I. A. Bizyaev, A. A. Kilin, I. S. Mamaev, S. M. Ramodanov, P. E. Ryabov and S. V. Sokolov have obtained the Russian Doctor of Sciences degree so far.

Professor Borisov established cooperation with many important scientific Russian institutions: the Institute of Machine Science of the Russian Academy of Sciences (RAS) in Moscow where he headed the Laboratory of Computer Simulation, the Institute of Mathematics and Mechanics of the Ural Branch RAS (Yekaterinburg) where he headed the Department of Mathematical Methods of Nonlinear Dynamics, Nizhny Novgorod State University, Saratov State University, Steklov Mathematical Institute RAS, the Moscow Institute of Physics and Technologies (Dolgoprudny) where he headed the Laboratory of Mechatronics and Robotics, and the I. N. Ulyanov Chuvash State University (Cheboksary), where he initiated the establishment of the Laboratory of Artificial Intelligence and Robotics.

Professor Borisov served on the Russian National Committee for Theoretical and Applied Mechanics. He was the representative of mechanical engineers and scientists of Russia in IUTAM. From 2006 on he was a corresponding member of the Russian Academy of Natural Sciences. In 2010, he and the team of the Institute of Computer Science were awarded the so-called “megagrant” (Grant of the Government of the Russian Federation for State Support for Scientific Research Conducted under the Supervision of Leading Scientists at Russian Institutions of Higher Professional Education). In 2012 A. V. Borisov, together with his former student, I. S. Mamaev, was awarded the “Sofya Kovalevskaya Prize” by the Russian Academy of Sciences for a series of works devoted to integrable systems in Hamiltonian mechanics. In 2014 he was granted the honorary title “Honored Scientist of the Udmurt Republic”.

In 2012 Borisov became the Editor-in-Chief of the internationally recognized journal *Regular & Chaotic Dynamics*. The journal was a namesake of a publishing center that Borisov had founded in 1998 for publication of literature on physics and mathematics. The small publishing house managed to do what even large Russian publishing houses could not: get the fundamental classical works of A. B. Basset, C. Caratheodory, E. J. Cartan, J. G. Darboux, J. H. Jellett, S. Lie, W. Thomson and of many others translated into Russian and publish them.

Together with Valery V. Kozlov and Vladimir Dragovic, Alexey Borisov organized seven international conferences “Geometry, Dynamics, Integrable Systems” (GDIS 2008 Belgrade, GDIS 2010 Belgrade, GDIS 2011 Lisbon, GDIS 2013 Izhevsk, GDIS 2014 Trieste, GDIS 2016 Izhevsk, GDIS 2018 Moscow), the Mathematical Institute of the Serbian Academy of Sciences and Arts, the Steklov Mathematical Institute of RAS, and the Izhevsk Institute of Computer Science being the main organizing institutions. In 2019, Borisov organized a large international conference in Cheboksary which was dedicated to the memory of S. A. Chaplygin.

We should also mention one of the remarkable hobbies of Alexey Borisov. He was an outstanding musician on the accordion. Many will remember him as both a professor and a musician, with his numerous concerts, masterly play, creative charisma and charm.

It should be especially stressed that Alexey Vladimirovich was a great friend of Serbian scientists and put a lot of effort into enhancing the scientific ties between the Russian Federation and Serbia. His achievements in this direction were formally recognized and ratified by the Mathematical Institute of the Serbian Academy of Sciences and Arts in 2016 when Alexey Borisov was awarded “Захвалница Математичког института САНУ поводом 70 година од оснивања” (the Certificate of Gratitude of the Mathematical Institute of the Serbian Academy of Sciences and Arts on the occasion of its 70<sup>th</sup> anniversary).

The international conference GDIS 2022, devoted to the memory of A. V. Borisov is going to be organized on the Zlatibor mountain in Serbia, June 5–9, 2022 (<http://www.mi.sanu.ac.rs/~gdis2022/index.html>). Before that, the Regular and Chaotic Dynamics Conference devoted to the memory of A. V. Borisov was organized by the Steklov Mathematical Institute in Moscow, Nov. 22–Dec. 3, 2021, with the participation of scientists from all over the world, including four from Serbia: [http://www.mathnet.ru/php/conference.phtml?confid=1952&option\\_lang=eng](http://www.mathnet.ru/php/conference.phtml?confid=1952&option_lang=eng).

Professor Borisov's professional and creative career got prematurely interrupted. As it was observed multiple times after he passed away, this charismatic, surprisingly energetic, and multi-faceted talented intellectual managed to accomplish more than enough for several lives.

We will be missing Alexey Vladimirovich. Dear Alexey, rest in peace and thank you.

**Vladimir Dragović**  
**Borislav Gajić**  
**Božidar Jovanović**