

Candidate supervisor's information summary form
maximum 2 pages – it should be a summary of most important achievements

Name and surname, degree, title:	Alexander Prokopenya, PhD, Dr.Sc.
Discipline/ disciplines of science	Informatics
Professional development (degrees and titles) in chronological order	<p>1983 – Master in Theoretical and Mathematical Physics, M.V. Lomonosov State University in Moscow, Faculty of Physics</p> <p>1988 - PhD in Theoretical and Mathematical Physics, M.V. Lomonosov State University in Moscow, Faculty of Physics</p> <p>2007 - Dr.Sc. (habilitation), Mathematical Sciences, Specialization: Informatics, A.A. Dorodnitsyn Computing Center of the Russian Academy of Science, Moscow (nostrification at the Jagiellonian University, Cracow, 2010)</p>
Most important publications/patens over the last 3 years (maximum 10)	<p>A. Prokopenya. <i>Stability analysis of periodic motion of the swinging Atwood machine</i>. In: F. Boulier, M. England, T.M. Sadykov, E.V. Vorozhtsov (Eds.) <i>Computer Algebra in Scientific Computing / CASC'2022, Lecture Notes in Computer Science</i>, vol. 13366, Springer, Cham, 288 – 299.</p> <p>A.N. Prokopenya, M.Zh. Minglibayev, A.B. Kosherbaeva <i>Derivation of evolutionary equations in the many-body problem with isotropically varying masses using computer algebra</i>. <i>Programming and Computer Software</i>, Vol. 48, No. 2 (2022)</p> <p>A.N. Prokopenya. <i>Searching for equilibrium states of Atwood's machine with two oscillating bodies by means of Computer Algebra</i>. <i>Programming and Computer Software</i>, 47(1), 43 – 49 (2021).</p> <p>A.N. Prokopenya. <i>Construction of a periodic solution to the equations of motion of generalized Atwood's machine using computer algebra</i>. <i>Programming and Computer Software</i>, 46(2), 120 – 125 (2020).</p> <p>M. Minglibayev, A. Prokopenya, O. Baisbayeva. <i>Evolution equations of translational-rotational motion of a non-stationary triaxial body in a central gravitational field</i>. <i>Theoretical and Applied Mechanics</i>, 47(1), 63 – 80 (2020).</p> <p>S.B. Bizhanova, M.Zh. Minglibayev, A.N. Prokopenya. <i>A study of secular perturbations of translational-rotational motion in a nonstationary two-body problem using computer algebra</i>. <i>Computational Mathematics and Mathematical Physics</i>, 60(1), 27 – 36 (2020).</p> <p>A.N. Prokopenya, M. Minglibayev, S. Shomshekova. <i>Applications of computer algebra in the study of the two-planet problem of three bodies with variable masses</i>. <i>Programming and Computer Software</i>, 45(2), 73–80 (2019).</p>

	A.N. Prokopenya. <i>Modelling Atwood's machine with three degrees of freedom</i> . Mathematics in Computer Science, 13 , 247 – 257 (2019)
Experience in work with doctoral students (defended doctoral dissertations, doctoral programmes opened) in chronological order	<p>Supervisor of 3 defended PhD dissertations:</p> <p>1. Dzmitry Budzko. Equilibrium solutions of motion's differential equations of restricted four-body problem and their stability. Belarussian State University, Minsk, Belarus, 2012.</p> <p>2. Gulnara Mayemerova. Secular perturbations in the problem of three bodies of variable masses. Al-Farabi Kazakh National University, Almaty, Kazakhstan, 2013</p> <p>3. Saule Shomshekova. Investigation of dynamical evolution of non-stationary exoplanetary systems, Al-Farabi Kazakh National University, Almaty, Kazakhstan, 2020.</p> <p>Supervisor in 3 open doctoral dissertations:</p> <p>Zhanar Imanova, Secular perturbations in the two-planetary problem of three bodies of variable masses, Al-Farabi Kazakh National University, Almaty, Kazakhstan, 2015.</p> <p>Oralkhan Baisbayeva, Investigation of the rotational-translational motion of a non—stationary triaxial body in a central gravitational field, Al-Farabi Kazakh National University, Almaty, Kazakhstan, 2017.</p> <p>Saltanat Bizhanova, Investigation of the rotational-translational motion of a non—stationary dynamically symmetric body in a central gravitational field, Al-Farabi Kazakh National University, Almaty, Kazakhstan, 2018.</p>
Project/grants achievements (from the last 10 years)	Guest researcher grant on Simulation of quantum computation with Mathematica, XLIM Institute, University of Limoges, France, May-June 2014.
Topic – research problem – for which the candidate supervisor seeks a doctoral student	Mathematical modelling; Computer Algebra and Applications; Dynamical systems and motion stability; Simulation of quantum computation.
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