

Additive Gas Technology and Computer Modeling in Technical Physics

National Research Tomsk State University

Degree or qualification is awarded: **Master's degree**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **2 years**

Availability of free education: **no**

Price: **224 400 RUB per year**

Programme webpage at the university website:

http://www.tsu.ru/education/magistratura/magisterskie_programmy.php

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The programme is advanced study of the turbulence theory. Our students adapt numerical methods for turbulent flows calculations such as turbulence direct simulation methods and engineering methods based on kinetic energy transfer equation and the speed of its dissipation, which offers the possibility to solve complex problems in applied physics. An important element of the programme is studying a set of applications effective in combination with theoretical knowledge obtained under the programme.

Graduates of our programme can be successfully employed in the fields of computational studies simulation for single-phase and bi-phase turbulent flows, heat and mass transfer in nuclear fuel cycle problems and chemical engineering processes, methods of calculation for powder technique pneumatic devices, macrokinetics of burning, calculation for jet turbulent swirling bi-phase flows, fluid dynamics of high-powered devices and processes.

Programme contents

The most important subjects of the programme are Introduction to Additive Technologies, Computing Technologies, Mathematical Modeling in Problems of Additive Gas Phase Technologies, Problems of Turbulence in Additive Gas Phase Technologies, Heat and Mass Transfer in Additive Technologies and Bi-Phase Systems, Information Technologies, Processes and Devices of Powder Technique, Non-Newtonian Liquid Mechanics, Sets of Applications. The programme includes research activity by students, i.e. scientific papers published in renowned refereed journals. As a result, a student's Master dissertation includes new solutions to urgent problems of applied physics.

Career

Our alumni may become PhD-students and to be employed in such enterprises as the Russian Federal Nuclear Centre VNIITF (Snezhinsk, Chelyabinskaya Oblast), Russian Federal Nuclear Centre All-Russian Research Institute of Experimental Physics (Sarov, Nizhegorodskaya Oblast), Federal Research and Production Centre "Altai" (Biisk, Altai Krai), The Institute of Problems of Chemical Physics of the RAS (Chernogolovka, Moskovskaya Oblast), OAO "TomskNIPneft", Thermophysics Institute of the Siberian Branch of the RAS (Novosibirsk), Seversk State Technological Academy "National Research Nuclear University MIFI" (Seversk, Tomskaya Oblast), universities of Tomsk and other organizations.

Admission

Admission is competitive, students with Bachelor's degrees or higher are eligible. The admission tests are an exam in applied physics and an interview.

Specializations within this programme