



Shanghai Cooperation Organization- 1st Young Scientists Conclave (SCO-YSC 2020)
A virtual event organised in India at CSIR-IICT, Hyderabad
Theme: Shaping SCO-STI Partnership: Young Scientists Perspectives

SCO-Young Scientist Profile

First Name: Andrey

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Designation
& affiliation:

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Details of research work carried out in S&T (*limit to 200 words*)

The scientific novelty of the provisions, is to develop:
mathematical model selection of robotic tools to perform tasks on the basis of the internal parameters differ from the following: foreign-made equivalents of task allocation in a homogeneous group of robotic tools, is carried out by constructing a Gantt chart for probabilistic time spent on the task and the location of the robot, and I have also proposed a distribution on the real parameters the main of which are: while the RTS location relative to the target, the reception quality of the signal.
a method for distributing tasks in a group of heterogeneous robotic tools using the theory of economic mechanisms based on the formation of multi-criteria estimates. In contrast to the well-known simulation and combination algorithms, the method of selecting a priority RTS based on the theory of economic mechanisms is used. The proposed method allows you to calculate the priority distribution of tasks due to a larger number of parameters than analogues. The method allows you to distribute computing power on the RTS depending on the priority of the tasks performed.
an information and control system for rapid detection and identification by a heterogeneous group of robotic tools, which, unlike the existing ones, will be implemented as a prototype of software and algorithmic software, using neural network methods and monitoring algorithms.

Associated SCO-YSC Theme:

Statement of Innovation (*Brief information on new innovative ideas including startup / entrepreneurs- limit to 150 words*)

Today, quite a lot of startups implement monitoring and analysis of agricultural land using unmanned aerial vehicles, on the other hand, startups are currently being developed for automatic soil cultivation, a clear example is the company Cognitive Technologies. The essence of my idea is to create a common system for distributing tasks in a groups of heterogeneous robots

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Major awards/ Achievements *(Upto 3 awards)*

Responsible executor of topics for the State defense order.

Development of educational kits to prepare students for international engineering and technical competitions commercialization from 2015-2019 in secondary schools in Moscow and the Moscow region through, for 2018, the company's annual turnover reached 7,000,000 rubles.

The candidate's dissertation was defended on this topic.

Participation in the Bortnik Foundation grant

Possible collaboration with SCO countries *(limit to 100 words)*

I'm very interested in international cooperation from the point of view of practical testing of a system for distributing tasks between groups of heterogeneous robotic tools for full automation of agricultural processing in the fields of wheat in China and India, sugar cane in India, tea in India and China, and cotton in China, India and Uzbekistan.

International cooperation in terms of applied research in the field of robotics.

Key words *(relevant to research work conducted as well as proposed innovation, 5-6 words)*

robotics, agriculture, control systems by group of robots, the allocation of tasks