Федеральное государственное автономное образовательное учреждение высшего образования «Российский университет дружбы народов»

ИНЖЕНЕРНАЯ АКАДЕМИЯ

(наименование основного учебного подразделения (ОУП) – разработчика программы)

Утверждена на заседании *УС инженерной академии*,
протокол № 2022-08/22-04/2
от «29» 04 2022 г.

ПРОГРАММА ПОДГОТОВКИ НАУЧНЫХ И НАУЧНО-ПЕДАГОГИЧЕСКИХ КАДРОВ В АСПИРАНТУРЕ

Научная специальность:
2.3.1. Системный анализ, управление и обработка информации
(код и наименование научной специальности)

Направленность (профиль):
System Analysis, Control and Information Processing / Системный анализ, управление и обработка информации (реализуется на английском языке)
(наименование программы подготовки научных и научно-педагогических кадров)

Программа подготовки научных и научно-педагогических кадров в аспирантуре разработана в соответствии с требованиями:
СУТ РУДН, утвержденных приказом ректора № 139 от «09» марта 2022 г.

Срок освоения программы подготовки научных и научно-педагогических кадров в аспирантуре:
3 года
(очная форма обучения)

Сведения об особенностях реализации программы: *программа на английском языке.*

СОГЛАСОВАНО:

Руководитель программы
Салтыкова О.А.
(подпись)

Директор инженерной академии
Разумный Ю.Н.
(подпись)

Начальник УОП
Воробьева А.А.
(подпись)

Начальник УПКВК
Сафир Р.Е.
(подпись)

2022 г.

1. PURPOSE OF THE POSTGRADUATE PROGRAM

The purpose of the program is to create conditions for acquiring the level of knowledge, skills, skills, and experience necessary for the implementation of professional activities and preparing for the defense of a dissertation for the degree of candidate of science, as well as conducting scientific research in the interests of the development of science, humanity and humanitarian values.

2. BRIEF SUMMARY OF THE PROGRAM

Research activities within the framework of the training program cover the areas of creation and application of elements of computer technology, informatics, computer, information, robotic and intelligent systems, methods of accumulation and processing of information, algorithms, human-machine interfaces, development of new mathematical methods and means of supporting intellectual processing data, development of information and automated systems for design and control in application to various subject areas.

The program is implemented in full-time education in accordance with the license for the right to carry out educational activities.

The normative term for mastering the main educational program in the direction of postgraduate training 2.3.1 System Analysis, Control and Information Processes / Системный анализ, управление и обработка информации (implemented in English) - 3 years.

The volume of the postgraduate program is 180 credit units (hereinafter - CU). The volume of the postgraduate program implemented in one academic year is 60 CU.

3. THE NEED OF THE LABOR MARKET FOR GRADUATES WHO HAVE COMPLETED THE POSTGRADUATE PROGRAM

In the process of studying, postgraduate students receive theoretical and practical training and skills in research and scientific and pedagogical work, which allow them to work effectively after completing the study of the educational program in enterprises of various fields and industries in senior positions, as well as in research and educational organizations.

Graduates who have mastered this program are oriented to work in Russian and international companies, enterprises, educational institutions, research organizations in various industries related to the research and design of automatic control systems.

The field of professional activity of graduates who have mastered the postgraduate program includes the field of professional activity of graduates, which includes the fields of science, technology, technology and pedagogy, covering a set of tasks in the field of Informatics and Computer Engineering, including the development of theory, the creation, implementation and operation of advanced computer systems, networks and complexes, mathematical and software.

In the professional sphere, the main consumers of the educational program are such Russian and international enterprises as:

 Federal State Institution "Federal Research Center Institute of Applied Mathematics named after M.V. Keldysh of the Russian Academy of Sciences"

 Federal State Budgetary Institution of Science Institute of Management Problems named after. V. A. Trapeznikov of the Russian Academy of Sciences (IPU RAS);

Federal State Unitary Enterprise "Central Research Institute of Mechanical Engineering" (FGUA TsNIIMash, Korolev)

Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia";

Yandex LLC;

Kaspersky Lab;

MathWorks Inc.;

- Microsoft Corporation.

NPO Echelon

4. REQUIREMENTS FOR APPLICANTS APPLYING TO THE PROGRAM

For admission to the program, the Admission Rules are valid, approved by the relevant local regulatory act and posted in the public domain on the official website of RUDN University.

5. STRUCTURE AND SCOPE OF THE PROGRAM OF TRAINING SCIENTIFIC AND SCIENTIFIC AND PEDAGOGICAL PERSONNEL IN POSTGRADUATE STUDIES

The structure and scope of the postgraduate program - the period of development is 3 years in full-time.

№	Structure of the Postgraduate Program	The scope of the PhD program in CU
1. Scientific component		150
1.1.	Scientific activity aimed at preparing a dissertation for defense	126
1.2.	Preparation of publications and/or patent applications	18
1.3.	Intermediate certification by stages of scientific research	6
2. Educational component		24
2.1.	Disciplines (modules)	13
2.2.	Practice	5
2.3.	Intermediate certification in disciplines (modules) and practice	6
3. Final examination		6
3.1	Evaluation of the thesis for its compliance with the established criteria	6

Scope of the Postgraduate Program	180

6. CHARACTERISTICS OF THE PROFESSIONAL ACTIVITY OF THE GRADUATE

The field of professional activity of graduates who have mastered the postgraduate program includes the fields of science, engineering, technology and pedagogy, covering the totality of tasks of the field of Informatics and Computer Engineering, including the development of theory, the creation, implementation and operation of advanced computer systems, networks and complexes, mathematical and software.

The objects of professional activity of graduates who have mastered the postgraduate program are the chosen area of scientific knowledge, as well as scientific tasks of an interdisciplinary nature, containing:

– computers, complexes, systems and networks;

- software for computer equipment and automated systems (programs, software packages and systems);

- mathematical, information, technical, software for automated information, computing, design and control systems;

- technologies for the development of technical means of computer technology and software products.

The chosen area of scientific knowledge is Mathematical modeling, numerical methods and software systems.

The postgraduate program is aimed at mastering all types of professional activities for which the graduate is preparing.

When developing and implementing postgraduate programs, the supervisor of the educational program focuses on the specific type (types) of professional activity for which (which) the postgraduate student is preparing, based on the needs of the labor market, research and material and technical resources of the structural units involved in the implementation of the educational program .

Within the framework of this area of training, a graduate student is preparing for research activities in universities, research and production enterprises of any form of ownership, as well as for teaching at a university.

Types of professional activities for which graduates who have mastered the postgraduate program are preparing:

- research activities in the field of functioning of computers, complexes, computer networks, creation of elements and devices of computer technology on new physical and technical principles, methods of processing and accumulation of information, algorithms, programs, programming languages and human-machine interfaces, development of new mathematical methods and means of supporting intellectual data processing, development of information and automated design and control systems in application to various subject areas;

– teaching activity on educational programs of higher education.

A graduate who has mastered the postgraduate program, in accordance with the types of professional activities that the educational program is focused on, is ready to solve the following professional tasks:

The tasks of the professional activity of a postgraduate graduate are:

– independent (including managerial) research activity, which requires broad fundamental training in modern areas of technical systems management, design of

intelligent and information-control systems, deep specialized training in the chosen direction, skills in modern research methods;

– scientific and pedagogical work in higher and secondary specialized educational institutions.

7. LOCATION OF THE STUDY PROGRAM

7.1. The postgraduate program is implemented by the Russian University of Peoples' Friendship.

7.2. Information about the planned bases for conducting practices and (or) performing scientific research

Practice and research	**Practice base**
Pedagogical practice (stationary)	RUDN University, Moscow
Scientific research (stationary)	RUDN University, Moscow

8. FEATURES OF THE IMPLEMENTATION OF THE POSTGRADUATE PROGRAM

8.1. The postgraduate program is implemented with elements of distance learning technologies, which imply the possibility of conducting lectures using MS Teams.

8.2. The language of implementation of the PhD program is English.

8.3. The program does not provide for the training of people with disabilities and people with disabilities.