

Head of department:

Djumanov Jamoljon Khudayukulovich

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The Department "Computer systems" was formed in 2008 as a result of the merging of three departments: "Applied informatics", "Computer systems and networks", "Biotechnical systems". "Applied informatics" department was established in August 17, 2005 by the order No.147/01 of the rector of TUIT, professor S.S. Kasimov on the initiative of professor M.M. Musayev. The purpose of the creating of the department is to prepare highly qualified specialists in engineering, development, design of applied information systems for the Republic of Uzbekistan. In 2005-2006, students were accepted to the direction of "Applied Informatics" for the first time.

M.M. Musaev

F.A.Raxmatov

A.I. Nazarov

J.X.Djumanov

Currently, 2 professors, 8 associate professors, 7 senior teachers and 9 assistants are carrying out their research and teaching activities at the department. So far, the teaching staff of the department have prepared 4 manuals for professional colleges. The total number of teaching subjects at the department is 31, their working programs, calendar plans and lecture notes prepared. At the department, undergraduate students are studying in the direction 5A5330500 - "Computer engineering" and master students in the specialty 5A5330501 - "Computer engineering" (Computer systems design). Currently, the department has 3 applied and 3 international projects on which more than 10 master students are actively involved. Over the past year more than 38 scientific publications have been published by the professorial teaching staff. There are 4 doctoral students (PhD) and 5 applicants at the department.

The bachelor degree directions of the department

5A5330500

Computer engineering

Master's degree specialty of the department

5A5330501

Computer engineering "Computer systems design"

- "Computer systems in Medicine"
- "Intellectual ICT"

Teaching subjects of the department

Bachelor:

- Digital signal processing

- Speech recognition algorithms
- Embedded systems
- Computer networks
- Parallel Computer Architecture and Programming
- Human-oriented software development
- Embedded Software Development
- Formal Program Verification Methods
- Real time systems
- Computer modelling
- Distributed Algorithms and Systems
- Bioinformatics and biomechanics
- Geographic Information Systems
- Mobile systems
- Embedded Computer Systems
- Computer organization
- Fundamentals of computer technology and programming of mobile electronic systems
- Computer Technology Basics

Master's degree:

- Artificial Intelligence and Neural Networks
- Computer vision
- Internet protocols
- VLSI system design
- Industrial applications
- Automated work environment for a doctor
- Image processing of universe
- Object Oriented and Structured Programming
- Ubiquitous-Health
- Technology for developing applications of geographic information systems
- Medical hardware and software
- Expert systems

Teaching staff of the department

Computer systems Department

No.	Photo	Name in Passport (First Name / Last Name)	Position	Subjects	Related Department	Contact Information Email/Phone
1		Djumanov Jamoljon Xudoyiqulovich	Head of Department	GIS technology	Computer systems	384-63-63 jamoljon@mail.ru
2		Musaev Muxammadjon Maxmudovich	Professor	Real time systems, Speech recognition algorithms	Computer systems	mm.musaev@rambler.ru

3	Nazarov Alisher Iskenderovich	assistant professor	Computer architecture, Data communication, computer networks	Computer systems	97/343-45-19 Alisher.nazarov1958@mail.ru
4	Akbarxodjaev SHamsuddin Nadjimovich	assistant professor	human and computer interactions, Managed software design	Computer systems	90/976-68-82 71/235-40-83 Akbarxodjaev43@mail.ru
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6	Raxmatov Furqat Abdirazzoqovich	assistant professor	computer networks, Real time systems	Computer systems	90) 989-79-30 f.rahmatov@tuit.uz
7	Yusupov Rustam Abdumuratovich	Senior Lecturer	Data communication, Software architecture, Managed software design	Computer systems	91) 317-03-81 neouzbek77@gmail.uz
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10	Sayfullaeva Nargiza Akromovna	Senior Lecturer	Data communication, computer networks , human and computer interactions	Computer systems	90/353-53-63 S_nargiza@gmail.com
11	Abdurashidova Kamola Turg'unboevna	Senior Lecturer	Embedded Computer systems, Data communication	Computer systems	93/529-34-24 kamolabdurashidova@mail.ru
12	SHukurov Kamoliddin Elbobo o'g'li	Senior Lecturer	Development of software systems of integrated systems	Computer systems	90/940-04-41 keshukurov@gmail.com

13	Kuchkorov Temurbek Ataxonovich	associate professor	Development of software systems of integrated systems, Formal methods of program verification, human and computer interactions , Intelligent data analysis	Computer systems	97/708-22-10 timanet4u@gmail.com
14	Raximov Mehridin Fazliddinovich	Senior Lecturer	computer architecture , Architecture and programming of parallel computers	Computer systems	97/447-72-76 raximov022@gmail.com
15	Radjabov Farxod Farmonovich	Senior Lecturer	computer architecture	Computer systems	98) 308-78-85 farhad63@mail.ru
16	Abidova Feruza SHakirovna	assistant	Data communication, computer networks, Information communication	Computer systems	93/523-71-84 93/523-72-84
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21	Axralov SHavkat Suloymonovich	assistant	Data communication, Information communication, computer architecture	Computer systems	93) 581-29-29 nurmuhammad@mail.ru

22	Ochilov Mannon Musinovich	assistant	Information communication, computer architecture, Architecture and programming of parallel computers	Computer systems	99) 828-64-51 rabotcha@mail.ru
23	Maxammadiev Maxsud Mardon o'g'li	assistant	human and computer interactions, Data communication	Computer systems	97) 406-72-72 maqsud_1158@mail.ru
24	Dovletova Sayyora Baltabaevna	assistant	Data communication, computer architecture	Computer systems	90) 317-54-37
25	Berdanov Ulug'bek Abdumurodovich	assistant	Real time systems	Computer systems	97) 404-97-50 ulug-907@mail.ru
26	Allamuratova Zamira Jumamuratovna	assistant	Information communication, Formal methods of program verification	Computer systems	91) 388-56-66 Zamira105@mail.ru
27	Musadjanova Dilobar Abduvaxidovna	assistant	computer architecture	Computer systems	90) 948-92-16

International projects carried out at the department

TechReh - "TECHNOLOGY OF REHABILITATION" (2016-2018), <http://www.techreh.uz/>

NICOPA - "New and Innovative Courses for Precision Agriculture" (2018-2021), <http://nicopa.eu>

Erasmus + Key Action 1 project (KA107) n.2018-1- IT02-KA107-047213

List of international scientific articles

No	Full name of authors	Position, academic degree	Scientific journal titles	Names of a published scientific journal, year, address
1.	Musayev M.M, Xujayarov I.Sh Ochilov M.M	Professor Teachers of Computer Systems	Image approach to speech recognition on CNN	2019 International Conference on Frontiers of Neural Networks (ICFNN 2019). Rome, Italy on July 26-28, 2019 (Scopus).

2.	Nazarov A.I., Khadirov R.X.Ibrohimov B.S.	Professor Teachers of Computer Systems	Prediction the parameters of Solar activity on the basic of taking into account the redistribution of gravitational forces in the Solar System.	International Journal of Mechanical Engineering and Technology (IJMET) Scopus Indexed Journal. Volume 9, Issue 11, November 2018. P.2085-2096.
3.	Shukurov K.E. Normatov Sh. Rakhimov M.F.	Professor Teachers of Computer Systems	Experience of Sarbonna University in the training of IT professionals for the medical industry	Perspectives of higher education development National Erasmus+ тўплам №10 декабр 2018
4.	Mirzahalilov S.S. Atadjanova N.S.	Professor Teachers of Computer Systems	NAT TRAVERSAL WITH IPV6	Инновационные подходы в современной науке. Сборник статей по материалом XXIII международной научно- практической конференции № 10 (46) Май 2019 г. Часть 2. Масква 2019 г.
5.	Mirzahalilov S.S. Atadjanova N.S.	Professor Teachers of Computer Systems	PRINCIPLES OF OPERATION OF THE OSPF PROTOCOL FOR MULTIPLE ZONES	Инновационные подходы в современной науке. Сборник статей по материалом XXIII международной научно- практической конференции № 10 (46) Май 2019 г. Часть 2. Масква 2019 г.
6.	Berdanov U.A..	Professor Teachers of Computer Systems	«The hidden markov model of the speech word recognition of the uzbek languagies»	Журнал «Современные исследования». Общество с ограниченной ответственностью "Центр научных исследований и консалтинга" №3,2018.Самара, Россия.
7.	Berdanov U.A., Malikova N.T.	Professor Teachers of Computer Systems	Параллельная решения задач цифровой обработки речевых сигналов.	Всероссийский научный журнал «Студент. Аспирант. Исследователь» № 2 (44) 2019 г. г. Владивосток, Россия.
8.	Nazarov A.I., Yaxshibayev D.S., Ibrahimov B.S.	Professor Teachers of Computer Systems	Прогностическое Моделирование влияния магнитосферных бурь на прединсультное состояние человека	Проблемы вычислительной и прикладной математики. №2(20), 2019. Стр.14-20.
9.	Rajabov F.F. Zaynudinov X.N.	Professor Teachers of Computer Systems	Методы и алгоритмы предварительной обработки биомедицинских сигналов	Научно-технический журнал «Автоматика и программная инженерия». 2018, №4(26)

10.	Rajabov F.F. Zaynudinov X.N.	Professor Teachers of Computer Systems	Мобильная компьютерная система для диагностики состояния органов желудочно-кишечного тракта на основе Bluetooth технологий	Научно-технический журнал «Автоматика и программная инженерия». 2019, №1(27), Новосибирск, Россия. С. 54-63 Журнал входит в наукометрическую базу РИНЦ (Российский индекс научного цитирования, договор № 497-08/2014 от 20.08.2014 г.).
11.	Rajabov F.F., Turapov U.U., Savurboev A., Guliev A.A., Nasriddinov B.B.	Professor Teachers of Computer Systems	Technical support of non-invasive glucometer for the removal and analysis of biophysical indicators of biologically active zones	Materials of the International Conference "Scientific research of the SCO countries: synergy and integration" - Reports in English. Part 1, Beijing, China 2019.P. 146-152
12.	Nasimov R.H. Abdurashidova K.T.	Professor Teachers of Computer Systems	Мониторинг функциональных изменений сердечно-сосудистой системы в режиме реального времени	Нучный журнал «ИНТЕРНАУКА» №9(91). Часть 1. Москва-2019. – С. 9-12
13.	Makhammadiyev M.M	Professor Teachers of Computer Systems	PR-деятельность как активный инструмент маркетинга	Экономика и бизнес Жоурнал Россия 2019

List of scientific articles approved in magazines HAC

№	Full name of authors	Position, academic degree	Scientific journal titles	Names of a published scientific journal, year, address
1.	Kuchkorov T.A. Sabitova N.Q.	Professor Teachers of Computer Systems	Deblurring techniques and fuzzy logic methods in image processing	Муҳаммад ал-Хоразмий авлодлари илмий-амалий ва ахборот-таҳлилий журналининг 2019 йил 3(9)-сон 2019 йил
2.	Berdanov U.A	Professor Teachers of Computer Systems	Using a hidden marking model in Uzbek word processing	Научно-технический и информационно-аналитический журнал ТУИТ 2018, №1. Tashkent, Uzbekistan.
3.	Ochilov M.M. Xujayarov I.	Professor Teachers of Computer Systems	Development of speech recognition algorithms	Научно-технический и информационно-аналитический журнал ТУИТ 2019, №3. Tashkent, Uzbekistan.
4.	Nasimov R.H.	Professor Teachers of Computer Systems	Development of remote monitoring system of cardiogram	Научно-технический и информационно-аналитический журнал ТУИТ №3 (47), 2018й. -Б. 14-29
5.	Nasimov R.H. Shukurov K.Y.	Professor Teachers of Computer Systems	Development of hardware-software for cardio-monitoring system.	Муҳаммад ал-Хоразмий авлодлари" илмий-амалий ва ахборот-таҳлилий журналининг 2019 йил №1 (7) сонига топширилди

Textbooks published by the department staff

№	Full name of authors	Position, academic degree	Title of textbooks	Year of publication, publisher name, neck, volume
1.	Musayev M.M. Rahmatov F.A.	Professor Teachers of Computer Systems	Speech Recognition Algorithms	Published at "Aloqachi" (8 п.т.)
2.	Musayev M.M. Rahmatov F.A. Shukurov K.E.	Professor Teachers of Computer Systems	Computer systems in medicine	Published at "Aloqachi" (8 п.т.)
3.	Miryusupov Z.Z. Djumanov J.Kh.	Professor Teachers of Computer Systems	Computer networks	Published at "Aloqachi" (10 п.т.)

Methodological textbooks published by the department

t/r	Department names	The number of published textbooks
1.	Computer systems	4

Obtaining a certificate in the department

№	Full name of authors	Position, academic degree	The names of the program for electronic computers adopted in the official register	ID number and date
1.	Rakhimov M.F. Bedanov U.A. Shukurov K.E. Rakhimov M.F.	Professor Teachers of Computer Systems	Software for spectral analysis of speech signals in digital signal processors	№ DGU 06304 22.04.2019
2.	Nazarov A.I., Qodirov R.X., Ibrohimov B.S.	Professor Teachers of Computer Systems	A program for predicting index of geomagnetic activity based on changes in gravitational forces in the solar system	DGU 05540, 31.07.2018
3.	Nazarov A.I., Qodirov R.X.,	Professor Teachers of Computer Systems	Prediction of air temperature in Tashkent city based on the redistribution of gravitational forces	№DGU 05896, 19.12.2018.
4.	Musayev M.M. Bedanov U.A. Rakhimov M.F. Xujamatov X.K.	Professor Teachers of Computer Systems	The program for the formation of proper pronunciation in children	DGU 06303 22.04.2019й
5.	Shukurov K.E. nasimovR.H. Zohirov Q.R	Professor Teachers of Computer Systems	The program for monitoring the functional parameters of the cardiovascular system in real time	DGU 0670 01.04.2019й

Teachers working on doctoral thesis

№	Full name of authors	Topic names approved by the council of HEI	Position, academic degree	Date of completion of the thesis
1.	Allamuratova Zamira	The electromagnetic system of telecommunication systems on the basis of geoinformational technology	Djumanov J.H TUIT professor CS department	2019

2.	Ulugbek Berdanov	Modeling the process of speech signals and creating the software complex for processing uzbek language	Musayev M.M. TUIT, professor of computer systems	2020
3.	Sayfullaeva Nargiza	Compression and distribution of data in computer systems	Musayev M.M. TUIT, professor CS department	2021
4.	Shukurov Kamoliddin	Analysis of architecture and creation of hardware -software for processing voice information	Musayev M.M. TUIT, professor CS department	2020
5.	Rajabov Farxat	Development of a software application package for digital processing of electrocardiograph signals	Djumanov J.H TUIT professor CS department	2020
6.	Nasimov Rashid	Development of algorithms and hardware -software for remote diagnosis of myocardial infarction	Muminov B.B. TUIT professor Computer Science department	2020
7.	Yusupov Rustam	Development of mathematical and software solutions to the problems of hydrogeological modeling of the underground hydrosphere.	Djumanov J.H TUIT professor CS department	2021

International relations of the department

- St. Petersburg state electrotechnical university
- Dresden technical university
- Lipetsk State University (Russia)
- Seoul National University of Science and Technology (South Korea)
- International academy computer technology (USA)
- Kyung Hee University (South Korea)
- IEEE (Institute of electrical and electronics engineers)
- Sannio Universiteti (Italy)
- Pierre and Marie Curie from Unvesitet (Franch)
- Saint Petersburg State University of Polytechnic University (Russia)
- Saint Petersburg State University telecommunication institute prof. M.B.Bonch-Bruevich

Master courses and laboratory "Computer systems in medicine"

The new laboratory "Computer systems in medicine" in 27th of December 2017 was opened, as part of the project TechReh(<https://tuit.uz/en/post/techreherasmus>). The main objective of the TechReh project is to define a learning environment to deliver more opportunities to access new competences related to the rehabilitation activities and jobs. These new competences refer in particular to the use of advanced ICT solutions for the rehabilitation that may go a long way towards the goals and priorities in terms of optimization of the healthcare organizations network and development of ICT, that have already been stated in the Welfare Improvement Strategy of the Republic of Uzbekistan for 2013-2015(<http://www.techreh.uz/>).

One of the important result of implementation of the project TechReh was opening of the master's program at Computer systems department of TUIT in 2018 ([letter of the TUIT rector dated 07.07.2018](#)) and students started their studies in the master courses from September 2, 2018. In June 17, 2019 with the Decree of the President of the Republic of Uzbekistan №ПК-4359 admission of 3 students on a grant basis in the direction "Computer systems in medicine" was approved(<https://lex.uz/pdfs/4380360>).