

2. MAIN RESULTS OF SCIENTIFIC ACTIVITIES OF THE STAFF

2.1. Main (significant) results of scientific activity

Lecturers of the department "Information Security" implement research activities in conjunction with the Research Institute "Information Security and Cryptology".

Research Institute "Information Security and Cryptology" has been operating since 2012 (<http://iisc.kz/>). The director of the institute is Seytkulov E.N., Ph.D., Associate Professor of the Department of Information Security.

Research and development activities of the institute are implemented in the following areas:

1. Security of information systems;
2. Coding and protection of information;
3. Applied cryptography;
4. Security in cloud computing;
5. Hardware protection of information;
6. Development of crypto-algorithms;
7. Software solutions.

To carry out its activities, the Research Institute "Information Security and Cryptology" has:

- "Cybershield : research and development of a cryptographic hashing algorithm", scientific supervisor Seitkulov E.N., ICRIAP grant, 2020-2022;
- "Cybershield : development of lightweight cryptographic systems and information security technologies for the Internet of things", scientific supervisor Seitkulov E.N., ICRIAP grant, 2020-2022
- "Research and development of methods and tools for generating S-boxes for symmetric cryptographic algorithms", scientific supervisor Seitkulov E.N., 2021-2023
- "Intelligent software and hardware system based on Raspberry Pi for testing network security with the generation of recommendations for decision-making "supervisor Ospanova A.B., competition for grant funding for scientific and (or) scientific and technical projects for 2021-2023 with a period of implementation of 12 months (MES RK).

2.2 Scientific publications in international scientific publications Web of Science (*submit a "screenshot" from the database*):

| No. p/n | FULL NAME. author(s) (indicate in English) | Publication title | Name of the journal, year, number, pages, ISSN | journal impact factor |
|-------------------|--|-------------------|--|-----------------------|
| <i>department</i> | | | | |

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|--------------------------|--|---|--|----------------|
| 1. | Seilov , Sh Zh , Seilov , AA, Shyngisov , DS, Goikhman , V. Yu , Levakov , AK, Sokolov, NA, Zhursinbek , Y. Sh | The Concept of Building a Network of Digital Twins to Increase the Efficiency of Complex Telecommunication Systems | Show Web of Science ResearcherID number and ORCID (provided by Clarivate) COMPLEXITY Volume 2021 Article number 9480235 DOI10.1155/2021/9480235 Published on MAR 15 2021 Article document type | 2.833, (Q2) |
| 2. | Ospanov , RM, Seitkulov , YN, Sissenov , NM, Yergalieva , BB | An example of an internal function for the SPONGE scheme | VESTNIK SANKT-PETERBURGSKOGO UNIVERSITETA SERIYA 10 PRIKLADNAYA MATEMATIKA INFORMATIKA PROTSESSY UPRAVLENIYA Volume17 Issue 3 Page 287-293 DOI10.21638/11701/spbu10.2021.306 Published 2021 | - |
| 3 | Satybaldina, DZ h ., Zolotarev VV, Ovechkin GV, Kzyz Sailau Zh | New concatenation schemes based on the multithreshold decoders of the convolutional self-orthogonal codes for Gaussian channels | EURASIAN JOURNAL OF MATHEMATICAL AND COMPUTER APPLICATIONS Volume 9, Issue 4, Page 51-62 DOI10.32523/2306-6172-2021-9-4-51-62 Published 2021 Document Type Article Accession Number WOS:000728178900004 ISSN 2306-6172 | - |
| Total: 3 | | | | |
| <i>Total by faculty:</i> | | | | |

2.3 Hirsch index according to the Web of Science database:

| No. p / p | FULL NAME. sci. degree, position | h- index |
|-----------|--|----------|
| 1 | Satybaldina D.Zh., Ph.D., head of the department | 3 |
| 2 | Seilov Sh.Zh., Ph.D., Doctor of Economics, Professor | 2 |

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|----------|---|---|
| 3 | Nurusheva A.M., PhD, acting associate professor | 2 |
| 4 | Ospanova A. B., Ph.D., acting associate professor | 1 |
| 5 | Shakhmetova G.B. master | 1 |
| 6 | Aimicheva G.I. master | 2 |
| 7 | Santeeva S.A. master | 2 |
| 8 | Konyrkhanova A.A. associate professor | 1 |
| 9 | Seitkulov E.N. | 2 |
| total: 9 | | |

2.4 Scientific publications in international scientific publications Scopus (*submit a "screenshot" from the database*):

| No. p/n | FULL NAME. author(s) (indicate in English) | Publication title | Name of the journal, year, number, pages, ISSN | journal impact factor (SJR) |
|-------------------|--|--|---|-----------------------------|
| <i>department</i> | | | | |
| 1. | Satybaldina, D., Kalymova, G. | Deep learning based static hand gesture recognition | (2021) Indonesian Journal of Electrical Engineering and Computer Science, 21(1), pp. 398-405. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85092638420&doi=10.11591%2fijeecs.v21.i1.pp398-405&partnerID=40&md5=0d4f94754509de07873b995561cf8bdf DOI: 10.11591/ijeecs.v21.i1.pp398-405 | 0.775 |
| 2 | Satybaldina, DZ h ., Zolotarev VV, Ovechkin GV, Kyzy Sailau Zh | New c oncatenation schemes based on the multithreshold decoders of the convolutional self-orthogonal codes for Gaussian channels | EURASIAN JOURNAL OF MATHEMATICAL AND COMPUTER APPLICATIONS Volume 9, Issue 4, Page 51-62 DOI10.32523/2306-6172-2021-9-4-51-62 | 0.153 |

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|----|---|---|--|-------|
| 3 | Kuznetsov , N.A. , Zolotarev , VV , Ovechkin , GV , Satybaldina, D.Zh . , Omirbaev , ED | Editorial retraction: Overview of polar codes problems from Optimization Error Correction Coding Theory technologies points of view | Contemporary Problemy Distancenogo Zondirovaniya Zemli iz Kosmosa (2020) 17:4 (9-26) DOI: 10.21046/2070-7401-2020-17-4-9-26 | 0.350 |
| 4 | Seksembayeva , MA , Tashatov, NN , Ovechkin , G. , Satybaldina, D.Zh . , Seitkulov , YN | Study of the Principles of Error Correcting Code in A Multipath Communication Channel with Intersymbol Interference | Journal of Theoretical and Applied Information Technology this link is disabled , 2021, 99(18), p . 4387–4398 | 0.153 |
| 5 | Tebueva , F. , Pavlov, A. , Satybaldina, D. | A method for planning the trajectory of a mobile robot in an unknown environment with obstacles | E3S Web of Conferences , 2021, 270, 01035 | 0.203 |
| 6 | Shakhmetova , G., Saukhanova , Z., Udzir , N.I., Sharipbay, A., Saukhanov , N. | Application of pseudo-memory finite automata for information encryption | CEUR Workshop Proceedings. Vol. 2853, 2021, Pages 330-339 2nd International Workshop on Intelligent Information Technologies and Systems of Information Security, IntelliTSIS 2021; Khmelnytskyi ; Ukraine; 24 March 2021 - 26 March 2021. ISSN: 16130073. Scopus. | 0.177 |
| 7. | Ospanov , RM, Seitkulov , YN, Sissenov , NM, Yergalieva , BB | Sponge Inner Function Example | Bulletin of St. Petersburg University. Applied Mathematics. Informatics. Management processes. 2021, Vol. 17. Issue . 3. - S. 287-293. | 0.233 |
| 8. | Gulim Tursyngaliyeva , Kakim Sagindykov , Assem Konyrkhanova , Rozamgul Niyazova | Modeling the dynamic ethnic processes in a multinational society | Journal of Modeling in Management, 2021, ISSN: 1746-5664 https://www.emerald.com/insight/content/doi/10.1108/JM2-11-2020-0308/full/html | 0.434 |
| 9. | Shakerkhan , KO , Meshechkin , VV , Sagindykov , KM , Konyrkhanova , AA , Abilmazhinov , ET | Development of an industrial-scale bioreactor in the context of a global pandemic | International Scientific and Practical Conference "Ensuring Sustainable Development in the Context of Agriculture, Green Energy, Ecology and Earth Science" (ESDCA 2021) IOP Conf. Series: Earth and Environmental Science 723(4) (2021) 042034 https://iopscience.iop.org/article/10.1088/1755-1315/723/4/042034/pdf (Web link to database https://www.scopus.com/sources.uri), | 0.179 |

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| 10. | Yerzhan N. Seitkulov , Seilkhan N. Boranbayev , Gulden B. Ulyukova , Banu B. Yergaliyeva , Dina Satybaldina | Methods for secure cloud processing of big data | https://www.scopus.com/sourceid/21100799500?origin=resultslist Indonesian Journal of Electrical Engineering and Computer Science Vol. 22, no. 3, June 2021, pp. 1650~1658 ISSN: 2502-4752, DOI: 10.11591/ijeecs.v22.i3.pp1650-1658 | 0.241 |
| 11. | Seksembayeva MA, Tashatov NN, Ovechkin GV, Satybaldina D.Zh ., Seitkulov YN | Channel estimation based on the fixed DVB-S2 system to transfer images | Turkish Journal of Computer and Mathematics Education Vol.12 No.10 (2021), 2015-2024 | 0.153 |
| 12. | D.Zh. _ Satybaldina, NS Glazyrina , KA Kalymova, VS Stepanov | Development of an algorithm for abnormal human behavior detection in intelligent video surveillance system | https://www.scopus.com/sourceid/19700200831?origin=resultslist IOP Conference Series: Materials Science and Engineering | 0.198 |
| 13. | Seilov Sh. Zh., Goikhman V.Yu., Levakov A.K., Sokolov N.A. | Concept of Building a Network of Digital Twins to Increase the Efficiency of Complex Telecommunication Systems | Complexity , 2021, 9480235 | 0.447 |
| 14. | ZHULDYZ TASHENOVA, ELMIRA NURLYBAEVA, AMANDOS TULEGULOV, ZHANAT ABDUGULOVA | SQL-ATTACK RESEARCH AND PROTECTION | Journal of Theoretical and Applied Information Technology 15th October 2021. Vol.99. No 19 , 4536- 4545 R. Scopus 36 ISSN: 1992-8645 https://www.scopus.com/record/display.uri?eid=2-s2.0-85117463360&origin=resultslist&featureToggles=FEATURE_VIEW_PDF:1 | 0.153 |
| 15. | Boranbayev , A. , Boranbayev , S. , Seitkulov , Y. , Nurbekov , A. | Proposing Recommendations for Improving the Reliability and Security of Information Systems in Governmental Organizations in the Republic of Kazakhstan | Advances in Intelligent Systems and Computing, 2021, 1290, p . 854–868 https://www.scopus.com/authid/detail.uri?authorId=24280172200 | 0.184 |
| 16. | Ospanova , A. , Tuleuov , B. , Zharkimbekova , A. , Kusseпова , L. , Mangmuryrn , M. | Mobile Devices and Portable Classroom Based on Raspberry Pi Computers | 12th National Conference with International Participation, ELECTRONICA 2021 - Proceedings, 2021, 9513685 https://www.scopus.com/authid/detail.uri?authorId=55933262200 | - |

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| 17. | Ospanova , AB , Tuleuov , BI , Tokkuliyeva , AK , Kussepova , LT , Zharkimbekova , AT | Intelligent Mobile Hardware-Software Device for Automated Testing and Monitoring of Computer Networks Based on Raspberry Pi | Proceedings of the 2021 15th International Scientific-Technical Conference on Actual Problems of Electronic Instrument Engineering, APEIE 2021, 2021, p . 396–400 https://www.scopus.com/authid/detail.uri?authorId=55933262200 | - |
| <i>Total: 17</i> | | | | |
| <i>Total by faculty:</i> | | | | |

2.5 Hirsch index according to the Scopus database:

| No. p/n | FULL NAME. sci. degree, position | h- index |
|------------------|----------------------------------|----------|
| 1. | Satybaldina D. | 5 |
| 2. | Nurusheva A. | 12 |
| 3. | Seilov Sh Zh | 2 |
| 4. | Seitkulov Y. | 6 |
| 5. | Akhmetova Zh.Zh. | 3 |
| 6. | Aimicheva G.I. | 3 |
| 7. | Konyrkhanova A.A. | 1 |
| 8. | Ospanova A.B. | 2 |
| 9. | Sagindykov K.M. | 2 |
| 10. | Tashenova Zh.M. | 1 |
| 11. | Saukhanova Zh.S. | 1 |
| 12. | Shakhmetova G.B. | 1 |
| 13. | Ulyukova G.B. | 1 |
| 15 | Isainova A.N. | 2 |
| 16 | Santeeva S.A. | 2 |
| <i>Total: 16</i> | | |

2.6. Publications in journals not included in the Web of Science and Scopus databases

a) in foreign journals (RSCI, etc.)

| No. p/n | FULL NAME. author (s) | Publication title | Name of the journal, year, number, pages, ISSN |
|--------------------------|--|---|---|
| <i>department</i> | | | |
| 1 | Ospanov R.M., Seitkulov E.N., Ergalieva B.B., Sisenov N.M. | An example internal function for a Sponge schema built using the AES Generic Design Methodology | Reports of BSUIR, 2021, Volume 19, No. 3, -S. 89-95. |
| <i>Total: 1</i> | | | |
| <i>Total by faculty:</i> | | | |

b) in the journals of the Republic of Kazakhstan, included in the list of KKSON MES RK

| No. p/n | FULL NAME. author (s) | Publication title | Name of the journal, year, number, pages, ISSN |
|--------------------|--|--|---|
| <i>department</i> | | | |
| 1 | Satybaldina D.Zh., Isainova A.N. | Simulation modeling of a block binary multithreshold decoder in a binary symmetric communication channel | UNIVERSITY YEGBEKTERI • WORKS OF THE UNIVERSITY 2021. No. 2, page 163-168 , ISSN 2710-3382 |
| 2 | Orazbaev B.B., Zhumadillaeva A.K., Dyusekeev K.A., Santeeva S.A., Xiao-Guang Yue | Development of mathematical models of gasoline reforming reactors of the lg-35-11/300-95 unit based on a systematic approach | Proceedings of the National Academy of Sciences of the Republic of Kazakhstan. Series of physico-mathematical. No. 5(339), 2021, p. 145-152 , ISSN 1991-346X, https://doi.org/10.32014/2020.2518-1726.95 |
| 3 | Kintonova A.Zh., Umbetali E., Konyrkhanova A.A., Nazyrova A. | Online oқыtu web kosymshasyn jobalau men zhasau technologylary | BULLETIN of the National Engineering Academy of the Republic of Kazakhstan No. 1 (79), Almaty, 2021, ISSN 2709-4693, C.40-47 |
| 4 | E.N. Seitkulov, R.M. Ospanov, B.B. Yergaliyeva | On cryptographic properties of s-boxes | <i>Bulletin of Satbayev University</i> , 143 (4), 2021 - C.96–103. |
| 5 | E.N. Seitkulov, R.M. Ospanov, B.B. Yergaliyeva | An example of a cryptographic hash function based on a modified Sponge scheme | Bulletin of KazNITU , No. 143 (1), 2021, - S. 247-259. |

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| 6 | A.B. Ospanova , A.T. Zharkimbekova , L.T. Kusepova , A.K. Tokkulieva , M. Manmyryn | Computerlik jellylerds korgauga zhane monitoringileuge arnalgan bulk service | Bulletin of KazNITU , No. 3 2021, pp. 222-229. DOI: https://doi.org/10.51301/vest.su.2021.i3.29 https://vestnik.satbayev.university/index.php/journal/issue/view/58 |
| 7 | Tashenova Zh.M ., Nurlybaeva E, Abdugulova Zh , Amanzholova Sh | ASSESSMENT OF THE SECURITY STATUS OF THE COMPANY'S DATA CENTER NETWORK INFRASTRUCTURE | «KR ҰҒА Хабарлары . Physics - Mathematics series ”, 6(340). 2021 f ., 81-91 b . ISSN 2518-1726 (Online), ISSN 1991-346X (Print) |
| <i>Total: 7</i> | | | |

c) in journals of the Republic of Kazakhstan that are not included in the list of KKSON MES RK

| No. p/n | FULL NAME. author (s) | Publication title | Name of the journal, year, number, pages, ISSN |
|---|---|---|--|
| <i>Department of Information Security</i> | | | |
| 1. | Zhumadillaeva A.K., Orazbaev B.B., Tuleuov Zh.N., Orazbaeva K.N., Santeeva S.A. | Algorithm for solving a fuzzy decision-making problem for controlling the operating modes of a reforming unit | Bulletin of Toraigyrov University. 2021, No. 1, ISSN 2710-3420 |
| 2 | Azieva N.T., Oralbekova Zh.O., Utegenov A.N. | Interpretation of georadar data according to the forecast of hidden local objects | Certificate of entering information into the State Register of Rights to Objects Protected by Copyright No. 21487 dated 11/08/2021 |
| 3 | Nurlybaeva E.N., Tashenova Zh.M. , Amanzholova Sh.A., Satymbekov M.N. | Kurylymdyk elementterdin thermomechanical kuyin anyktau | KAZAKHSTAN - BRITIAN TECHNICAL UNIVERSITY KHABARSHYSY, Volume 18, Issue 3 April-June 2021, 69-75 b. |
| 4 | Nurlybaeva E.N., Tashenova Zh.M. , Amanzholova Sh.A., Satymbekov M.N. | Rod zhylu mechanics kuyin anyktaytyn bagdarlamalyk onimnin interfacein ondeu | KAZAKHSTAN - BRITIAN TECHNICAL UNIVERSITY KHABARSHYSY, Volume 18, Issue 3 April-June 2021, 56-69 b. |
| <i>Total: 4</i> | | | |
| <i>Total by faculty:</i> | | | |

2.7. Scientific publications in the collections of conferences held in the Republic of Kazakhstan:

| No. | FULL NAME. author (s) | Publication title | Name of the collection, year, p. |
|-----|-------------------------|-------------------|----------------------------------|
|-----|-------------------------|-------------------|----------------------------------|

| <i>department</i> | | | |
|-------------------|--|--|--|
| 1 | Sisenov Nurbek Mahanbetuly , Ospanov Ruslan Maratovich, Ergalieva Banu Bakhytzhanoyna , Zhetpisbayeva Ainur Tursynkanovna | Implementation of the Choice Function in the Modified Sponge Scheme for Designing Cryptographic Hash Functions | Collection of materials of the XVI International Scientific Conference of Students and Young Scientists "GYLYM JANE BILIM - 2021", Nur-Sultan, 2021, - P. 611-614. |
| 2 | Nurbek Sisenov , Ruslan Ospanov , Banu Yergaliyeva , Ainur Zhetpisbayeva | Implementation of the selection function in the modified Sponge cryptographic hash functions design scheme | Materials of the international scientific conference of students and young scientists "FARABI ALEMI", Almaty, Kazakhstan, April 6-8, 2021, - P. 82. |
| 3 | Banu Yergaliyeva , Kuandyk Niyazaliyev , Ruslan Ospanov , Gulden Ulyukova | On criteria and methods for generating optimal S-boxes | materials international scientific conference of students and young scientists "Farabi Alemi ". Almaty, Kazakhstan, April 6-8, 2021, - P. 84. |
| 4 | Ulyukova Gulden Bektemirovna , Ospanov Ruslan Maratovich, Ergalieva Banu Bakhytzhanoyna , Niyazaliyev Kuandyk Altaiuly | On Criteria and Methods for Generating Optimal S- Boxes | Materials of the XVI International Scientific Conference of Students and Young Scientists "GYLYM JANE BILIM - 2021", Nur-Sultan, - P.620-623. |
| 5 | Shakerkhan K.O., Sagindykov K.M., Meshechkn V.V., Anibaev S.K., Abilmazhinov E.T., Konyrkhanova A.A. | Development of a horizontal type bioreactor for farmers in Kazakhstan , taking into account climatic and economic conditions and a mathematical model for process control | VI International Scientific and Practical Conference "Computer Science and Applied Mathematics", dedicated to the 30th anniversary of the Institute of Information and Computing Technologies, from September 29 - October 2, 2021, Almaty |
| 6 | Akhmetova Zhanar Zhumanovna | SQL injection shabuylary : anyktau zhane aldyn alu Adisteri | III INTERNATIONAL SCIENTIFIC AND PRACTICAL online CONFERENCE "Energy and resource saving technologies: experiences and prospects", 28-05-2021 |
| 7 | Akhmetova Zhanar Zhumanovna | Commercial software kamtamsyz study karakshylygyndagy keru engineeringdan korganu | III INTERNATIONAL SCIENTIFIC AND PRACTICAL online CONFERENCE "Energy and resource saving technologies: experiences and prospects", 28-05-2021 |
| 8 | Seksenbaeva Aisha Kurmanbekovna | SPLUNK kosymshasynyn komegimen AZh kauipsizdigin taldau | "Global Science and Innovation 2021: Central Asia", 18-02-2021 |

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|--------------------------|------------------------------------|---|---|
| 9 | Seksenbaeva Aisha Kurmanbekovna | VPN Ortasyndagy Zamanai WIGEGUARD Hattamas | ISCIENCE.IN.UA "Actual scientific research in the modern world", 28-05-2021 |
| <i>Total: 9</i> | | | |
| <i>Total by faculty:</i> | | | |

2.8. Scientific publications in scientific conferences, symposiums, seminars abroad:

| No. | FULL NAME. author (s) | Publication title | Name of the collection, year, p. | The country |
|---|--|---|--|-------------|
| <i>Department of Information Security</i> | | | | |
| 1. | Aidiye Aidarbekov , Gulmira Shakhmetova and Kamshat Asmaganbetova | Informational Technologies in Film Production - How ICT shaping Media Industry | 4th IEEE International Conference on Advanced Information and Communication Technologies (AICT), 2021. | Ukraine |
| 2. | A. Ospanova , B. Tuleuov , A. Zharkimbekova , L. Kussepova , M. Mangmurnyn | Mobile Devices and Portable Classroom Based on Raspberry Pi Computers | Proc. 12th National Conference with International Participation "Electronica 2021", May 27 - 28, 2021, Sofia, Bulgaria, p. 62-65. DOI: 10.1109/ELECTRONICA52725.2021.9513685 ISBN:978-1-6654-4061-5 www.scopus.com/record/display.uri?eid=2-s2.0-85114128179&origin=resultlist | Bulgaria |
| 3 | A. Ospanova , B. Tuleuov , G. Karzhauova , L. Kussepova | Advanced Administration of Windows Based on Open Source Utilities | Proceedings of the World Congress on Engineering 2021, WCE 2021, July 7-9, 2021, London, UK, p. 118-121. ISBN: 978-988-14049-2-3 | UK |
| 4 | Ademi B. Ospanova , Berik I. Tuleuov , Aizhan K. Tokkuliyeva , Lazzat T. Kussepova , Aizhan T. Zharkimbekova | Intelligent Mobile Hardware-software Device for Automated Testing and Monitoring of Computer Networks Based on Raspberry Pi | Proceedings of the 2021 IEEE 15th International Conference of Actual Problems of Electronic Instrument Engineering (APEIE), Nov. 20, 2021, Novosibirsk, Russia. to be published | Russia |
| 5 | Kayupov E., T. Toleubekov | "Robotics Zhane Circuitry Boyynsha kashyqytan bilim ber mymkindikteri » | Trends and prospects for the development of science and education in the context of globalization” halykaralyk gylymy- tazhirbielik internet conference. Ukraine 2021. Collection 73. 122-125 page | Ukraine |

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|--------------------------|---|--|---|--------|
| 6 | Ruslan M. Ospanov , Yerzhan N. Seitkulov , Ainur Zheptisbayeva | A Sponge-Based Cryptographic Hash Function with Set of Internal Functions | Proceeding of the III International Turkic World Congress on Science and Engineering, 14-15 June 2021, Niğde – Turkey, pp. 10-15. | Turkey |
| 7 | Banu B. Yergaliyeva , Ruslan M. Ospanov , Kuandyk A. Niyazaliyev , Nurlan N. Tashatov, Dina Zh . Satyaldina | About Choosing The Optimal S-Boxes // | Proceeding of the III International Turkic World Congress on Science and Engineering, June 2021, Niğde , Turkey. – pp. 16-19. | Turkey |
| 8 | Yerzhan Seitkulov , Ruslan Ospanov , Banu Yergaliyeva , Ainur Zhetpisbayeva | Implementation of the selection function in the modified sponge cryptographic hash functions design scheme | The 19th International Scientific Conference Information Technologies and Management 2021 April 22-23, 2021, ISMA, Riga, Latvia, - pp. 68-69. | Latvia |
| 9 | Yerzhan Seitkulov , Ruslan Ospanov , Banu Yergaliyeva , Kuandyk Niyazaliyev | On criteria and methods for generating optimal S-boxes | The 19th International Scientific Conference Information Technologies and Management 2021, April 22-23, Isma , Riga, Latvia, pp. 70-71. | Latvia |
| 10 | Saukhanova Janat Sergazievna | ORACLE DATABASE INFORMATION SECURITY THREATS AND POSSIBLE PROTECTION MEASURES | Engineering and information technologies, economics and management in industry. Collection of scientific articles on the results of the second international scientific conference, 20-01-2021. | Russia |
| 11 | Akhmetova Zhanar Zhumanovna | Kazirgi tandagy medicine қырылгылardyң akparattyk қауіpsizdigi | "Student Bulletin": scientific journal. - No. 12(157). Part 5. Moscow, Ed. " Internauka ", 28-05-2021 | Moscow |
| 12 | Akhmetova Zhanar Zhumanovna | Pandemic kezindegi kashyktan zhymys zhasau : cyberқауіpsizdik maseleleri | "Student Bulletin": scientific journal. – No. 5(150). Part 4. 28-05-2021 | Moscow |
| <i>Total: 12</i> | | | | |
| <i>Total by faculty:</i> | | | | |

2.9 Number of published monographs in the Republic of Kazakhstan (if available, indicate the stamp of the Ministry of Education and Science of the Republic of Kazakhstan) (attach a copy of the title page; a copy of the page with the imprint of the publication, including UDC, ISBN / ISSN)

| No. | FULL NAME. author (s) | Publication title | Name of publication (with indication of the city), number of p.l. | The presence of a neck is indicated MES RK or ISBN |
|----------------------|-----------------------------|---|--|--|
| In English. language | | | | |
| 1 | Boranbayev SN, Nurusheva AM | Methods of ensuring the reliability and security of information systems (on English _ language) | Printing house FE « Bulatov A . Zh .», 2021, Nur-Sultan, 13 p . l . | ISBN 987-601-326-529-2 |
| 2 | Akhmetova Zh. Zh. | MATHEMATICAL AND COMPUTER MODELS, METHODS AND ALGORITHMS FOR SOLVING THE TASKS OF THE NETWORK STRUCTURE (on English _ language) | Publishing house "Master PO", Nur-Sultan, 2021, Nur-Sultan, 13 p . l . | ISBN 978-601-326-526-1 |
| <i>Total:2</i> | | | | |
| Total: 2 | | | | |

2.10 Organization and holding of scientific events at the faculty/department :

| No. | Full name | Topic | Date and time (online) | Supervisor |
|-----------------|---|--|--|--|
| November | | | | |
| Week 1 | kayrtai Daur Adakuly (2nd year undergraduate) | Jelilik traffic Baskaru adisterin taldau | 3.11.2021 13.00 https://clck.ru/YWFqU | Saukhanova Janat Sergazievna , Ph.D. , Associate Professor |
| 2 weeks | Zhumabekov Erzat Dauletuly (2nd year undergraduate) | Computerlik gelatin senimdiligin arttyru adisterin serteu | 8.11.2021 15.00 https://clck.ru/YgMMU | Tashenova Zhuldyz Musagulovna , PhD, acting associate professor |
| | Asylkhan Akhan Mukhtaruly (undergraduate 2 course) | Improving methods for investigating information security incidents, taking into account the legal framework of the Republic of Kazakhstan | | Kobzarev Vitaliy Anatolyevich, Ph.D., senior prep |
| | Zhanatova Asemgul Amantaevna (2nd year undergraduate) | Monitoring and security methods to keep the network healthy | | Konyrkanov Asem Adilbekkyzy , PhD, acting associate professor |
| 4 week | Karazhanov Meirlan Nurlanuly (2nd year undergraduate) | Development of proposals for improving the regulatory requirements for information security of Kazakhstan in relation to automated process control systems | 11/22/2021 15.00 https://clck.ru/YgMMU | Nurusheva Asel Muratovna, PhD, acting associate professor |

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|-----------------|---|--|--|---|
| | Eskhozhin Daniyar Kairatovich (2nd year undergraduate) | Methodology for the formation of the hierarchy of trust to the results of identification and authentication of access subjects | | Sagindykov Kakim Moldabekovich , Candidate of Physical and Mathematical Sciences, Associate Professor |
| | Tungishbaev Talgat Kairatovich (2nd year undergraduate) | Kasiporynny gelatin qyrylgylardyñ қауіпсіздігін және ақайлыққа төзімділігін Zabbix zhuyesi арқылы бақылау | | Saukhanova Janat Sergazievna , Ph.D. , Associate Professor |
| December | | | | |
| Week 1 | Alemkyzy ИҢкәп (undergraduate 2 course) | visualizations akparatta korgau ushin koldanuy | 4.12.2021 15.00 https://clck.ru/ZAsbt | Seksenbaeva Aisha Kurmanbekovna , Ph.D. , associate professor |
| | kaiyr Adil Erboluly (undergraduate 2 course) | Analysis of information security risks of enterprise operating systems | | Nurusheva Asel Muratovna, PhD, acting associate professor |
| | Tleugaliev Yerlan Utegenovich (2nd year undergraduate) | Optimization of the corporate network monitoring system for security | | Seytkulov Yerzhan Nurakhanuly , Candidate of Physical and Mathematical Sciences, acting associate professor |
| 2 weeks | Anuarbekov Tamerlan Bauyrzhanuly (2nd year undergraduate) | Development of multithreaded algorithms in Golang | 11.12.2021 15.00 https://clck.ru/ZAsbt | Satybaldina Dina Zhagiparovna , Ph.D., acting professors |
| | Tazabekov Alisher Azamatyly (2nd year undergraduate) | Operational zhuielerge ruqsatsyz kirudi anyktau adisterin sertteu | | Konyrkhanov Asem Adilbekkyzy , PhD, acting associate professor |
| | Ermek Sanjar Aidosuly (2nd year undergraduate) | Methods and means of cryptanalysis of block ciphers | | Seksenbaeva Aisha Kurmanbekovna , Ph.D. , associate professor |
| 3 week | Zhumatai sherkhan Sabituly (undergraduate 2 course) | Java Tilinin қауіпсіздік қырғалдарын Web -kosymshalardy Kuruda koldanu | 12/18/2021 15.00 https://clck.ru/ZAsbt | Saukhanova Janat Sergazievna , F- M.G.K ., Associate Professor |
| | Aralov Nursultan Maksatuly (undergraduate 2nd year) | Network traffic monitoring and analysis tools | | Sagindykov Kakim Moldabekovich , Ph.D., Associate Professor |
| | Ismailova Gulmira Erlanovna (undergraduate 2 course) | Protecting information using logical files | | Seksenbaeva Aisha Kurmanbekovna , Ph.D. , associate professor |
| 4 week | Abdiraman Aliya (doctoral student, 2nd year) | Assessment of the level of information security of information and communication infrastructure | 25.12.2021 15.00 https://clck.ru/ZAsbt | Nurusheva Asel Muratovna, PhD, acting associate professor |
| | Amrenov Askhat (doctoral student, 2nd year) | Development of a methodology and model for building processes of the Information Security Incident Response Service | | Nurusheva Asel Muratovna, PhD, acting associate professor |

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| | Beisekeyev Dosmurat Maratovich (2nd year undergraduate) | Composite authentication of users of information systems | | Sagindykov Kakim Moldabekovich , Candidate of Physical and Mathematical Sciences, Associate Professor |
|--|--|--|--|--|

2.10.1 International conferences

| No. | Name | the date of the | Number of participants/incl. foreign |
|-----|---|--|--------------------------------------|
| 1 | International Scientific and Practical Conference "Digital Transformation of Kazakhstan: Goals, Objectives and Key Success Factors" | , 2021 Nur- Sultan, Organized on the initiative of the Eurasian National University named after L. N. Gumilyov | |

Total: 1

2.10.2 Republican conferences

| No. | Name | the date of the | Number of participants/incl. foreign |
|-----|------|-----------------|--------------------------------------|
| 1 | | | |

Total:

2.10.3 International scientific forums, symposiums, seminars

2.10.4 Summer (winter, spring) schools

| No. | Name | the date of the | Number of participants/incl. foreign |
|-----|------|-----------------|--------------------------------------|
| one | | | |

Total:

2.10.5 Scientific round tables

| No. | Name | the date of the | Number of participants/incl. foreign |
|-----|------|-----------------|--------------------------------------|
| | | | |