



Georgian National Academy of Sciences



Personal Data (CV)

Surname	Iavich	First Name	Maksim
Address (work)	1 Paata Saakadze St, Tbilisi 0102	Date and place of birth	26.04.1985 Tbilisi, Georgia
Citizenship	Georgian	Contact phone number	+995595511355
E-mail	miavich@cu.edu.ge		

1. Education

Institution	Learning Time
Georgian Technical University, Ph.D. in mathematics	2010-2013
Ivane Javakhishvili State University, Master diploma in computer science	2006-2009
Ivane Javakhishvili State University, Bachelor in computer science	2001-2005

2. Scientific or Academic Degree and Rank

	Institution	Date of conferment
Ph.D. thesis	Georgian Technical University	05.07.2013
Doctoral thesis		
Academician Doctor		

3. Election as a member of the Academy, Research Follow of the Academy

	Election date
Member of the Academy	
Corresponding Member of the Academy	23.07.2025
Research Follow of the Academy	

4. Work Experience (Including permanent positions abroad)

Date	Institution	Position
01.03.2025-till now	LEPL - National Center for Education Quality Development	Member of the Accreditation Council
01.01.2022-till now	Caucasus University	Director of the Cyber Security Center
14.05.2019-till now	Caucasus University	Head of the Bachelor's Programs in Information Technologies, Cybersecurity, and the Master's Program in Information Technologies Management
01.09.2018-till now	Shota Rustaveli National Science Foundation of Georgia	Expert evaluator
10.09.2017-till now	Scientific Cyber Security Association	CEO and President
02.09.2015-till now	Caucasus University	Full professor, Head of cyber security direction
2020-2025	LEPL - National Center for Education Quality Development	Expert
2016-2021	Georgian Technical University	Invited professor
2014-2018	European School	ICT teacher of international baccalaureate
2014-2018	Bank of Georgia University	Associate professor, head of the program
2011-2014	Georgian Technical University	Invited lecturer
2009-2014	Maalot Zeidner Institute	Lecturer
2009-2016	Maxitop	Director / CEO

4.1 Teaching Activity

Date	Institution	Position
2015-till now	Caucasus University	Full professor, Head of cyber security direction
2014-2018	European School	ICT teacher of international baccalaureate
2011-2014	Georgian Technical University	Invited lecturer
2009-2014	Maalot Zeidner Institute	Lecturer

5. Scientific Interests

Cybersecurity, Cryptography, Post-quantum cryptography, AI, 5G security, mathematical models

6. Publications

1. Tkhelidze M. G., Misheladze C. G., Iavich M.P. The concept of teaching information technology in primary school and pre-school age. Ylmimetodik jurnal, 2010, 3, Baku: p. 37-44
2. Iavich M.P., Bibiluri M.V., To the method of preparation and arranging computer science lessons in primary school. Baku: Elmimetodik jurnal, 2011, 3, p.68-72.
3. Tkhelidze M. G., Iavich M.P. About methods of teaching information technology in the preschool and elementary school. Intelect 1(39), p. 123-125.
4. Iavich M.P., Computer technology is a means of intellectual development. Journal of actual problems of modern science, № 6, 2012, p. 364-366.
5. Iavich M.P., The concept of creation of intellectual computer games for preschool children. Engineering in Russia and abroad (II): Proceedings of the international. scientific. Conf. (Moscow, November 2012),2012, p. 163-165.
6. Iavich M.P., The concept of creation of intellectual computer science materials for preschool children. Engineering in Russia and abroad (II): Proceedings of the international. scientific. Conf. (Moscow, November 2012, 2012. — p. 162-163.
7. Iavich M.P., Bibiluri M.V., Data pre-school education. Teaching computer literacy of children younger classes. Georgian Technical University. GESJ: Education: Science and Psychology 2012 N.2(21).
8. Gurtskaya P.A., Iavich M.P., On the question of the course of computer science and ICT in primary school Georgian Technical University. GESJ: Education Science and Psychology 2012 N.2(21).

9. Iavich M.P., Theoretical foundations of computer science. Concept creation of e-learning tools and intellectual computer games for children. Moscow State University named after Lomonosov. International scientific practical conference. Moscow:2012, c. 163-165.
10. Iavich M.P. Electronic textbook: advantages and disadvantages // Modern scientific researches and innovations. 2012. № 10 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2012/10/16884>
11. Iavich M.P. Some Particularities of the IST and Computer Technologies Use in the Preschool and Primary School Education // Modern scientific researches and innovations. 2013. № 1 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2013/01/19788>
12. Iavich M.P. Using fonts theory when making electronic text book // Modern scientific researches and innovations. 2013. № 5 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2013/05/24104>
13. Iavich M.P. Using color theory when making electronic text book // Modern scientific researches and innovations. 2013. № 5 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2013/05/24076>
14. Gurtskaia P.A., Iavich M.P. Pupils distribution by group in educational social network // Modern scientific researches and innovations. 2013. № 5 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2013/05/24658>
15. Iavich M.P. Concepts and training programs for students of middle and high school age // Modern scientific researches and innovations. 2013. № 6 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2013/06/25261>
16. M. Iavich, სოციალურ ქსელში სწავლების ეფექტურობის მათემატიკური მოდელირება, The mathematical model of education efficiency in social networks, Intelect", 2013, N 2(46)
17. Iavich M.P., Popova D.S. Using Q basic in children teaching // Modern scientific researches and innovations. 2013. № 6 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2013/06/24665>
18. Iavich, M. Mathematical Model of Social Educational Networks. J Math Sci 216, 553–557 (2016). <https://doi.org/10.1007/s10958-016-2913-z>
19. Iavich M.P., Iashvili G.U. A comparison of websites optimizing processes in search engines using PHP and HTML // Modern technics and technologies. 2014. № 3 [Electronic journal]. URL: <http://technology.s nauka.ru/en/2014/03/3233>
20. Iavich M.P., Isaev P.D. Problems associated with the creation of the own cryptosystems // Modern scientific researches and innovations. 2014. № 4. P. 1 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2014/04/33150>
21. Iavich. M., Bibluri M.; The task of carrying the limit equations theory in infinite environment, for Young Scientists Conference, Tbilisi, 2015 , May, 14–15.
22. Iavich M.P., Pirtskhalava I.Z. Captcha development problems // Modern technics and technologies. 2015. № 7 [Electronic journal]. URL: <http://technology.s nauka.ru/en/2015/07/7577>
23. Iavich M.P., Samushia N.P., Tavberidze G.A. Simulation of computer game positive influence on educational process // Modern scientific researches and innovations. 2016. № 3 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2016/03/64576>
24. Gagnidze A.G., Iavich M.P., Iashvili G.U. Post-quantum cryptosystems // Modern scientific researches and innovations. 2016. № 5 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2016/05/67264>
25. M. Iavich, Mathematical Model of Social Educational Networks, Springer US, Journal of Mathematical Sciences, July 2016, Volume 216, Issue 4, pp. 553-557; http://link.springer.com/article/10.1007/s10958-016-2913-z?wt_mc=Internal.Event.1 SEM.ArticleAuthorAssignedToIssue
26. Gagnidze, M. Iavich, G. Iashvili, Some Aspects of Post-Quantum Cryptosystems, Abstract book, EURO-ASIA FORUM IN POLITICS ECONOMICS AND BUSINESS – 2016, JULY 21-22, 2016, BELGRADE, SERBIA.
27. Gagnidze, M. Iavich, G. Iashvili, Some Aspects of Post-Quantum Cryptosystems, Eurasian Journal of Business and Management, 4(4), 2016.
28. Gagnidze A.G., Iavich M.P., Iashvili G.U. Lattice based post-quantum cryptosystems // Modern scientific researches and innovations. 2016. № 10 [Electronic journal]. URL: <http://web.s nauka.ru/en/issues/2016/10/72575>
29. Gagnidze, M. Iavich, G. Iashvili, Attacks on post-quantum cryptosystems, Taras Shevchenko National University of Kyiv, 17-th International Young Scientists Conference" Optics & High Technology Material Science – SPO 2016", October 27th – 30th , Abstract Book, 2016.
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31. Iavich M.P., Baranov M.V. Simulation of online tutorial's positive influence on educational process // Modern scientific researches and innovations. 2017. № 2 [Electronic journal]. URL: <http://web.s nauka.ru/issues/2017/02/78629>
32. Gagnidze A.G., Iavich M.P., Iashvili G.U. Improved version of Merkle crypto system // Modern scientific researches and innovations. 2017. № 5 [Electronic journal]. URL: <http://web.s nauka.ru/issues/2017/05/81949>
33. M.Iavich, G.Iashvili, HASH BASED CRYPTO-SYSTEMS USE IN POST-QUANTUM CRYPTOGRAPHY, II Scientific conference "Problems of cybersecurity information and telecommunication systems", Faculty of Information Technology Taras Shevchenko National University of Kyiv, 23-24 March, 2017, Abstract Book
34. A.Gagnidze, M.Iavich, LATTICES USE IN POST-QUANTUM CRYPTOGRAPHY, II Scientific conference "Problems of cybersecurity information and telecommunication systems", Faculty of Information Technology Taras Shevchenko National University of Kyiv, 23-24 March, 2017, Abstract Book
35. Gagnidze A.G., Iavich M.P., Iashvili G.U., Analysis of Post Quantum Cryptography use in Practice, Bulletin of the Georgian National Academy of Sciences, vol. 11, no. 2, 2017, p.29-36.
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39. A.Gagnidze, M.Iavich, G.Iashvili Merkle with quantum TRNG // Scientific & practical cyber security journal (SPCSJ) № 2. [Electronic journal]. URL: <http://journal.scsa.ge/issues/2017/12/772>
40. M.Iavich, G.Iashvili Design of multi-user systems based on human computer interaction // Scientific & practical cyber security journal (SPCSJ) № 2.[Electronic journal]. URL: <http://journal.scsa.ge/ru/issues/2017/12/812>
41. A. Gagnidze, M.Iavich, G.Iashvili, N. Inasaridze, V. Vyalkova CRITICAL ANALYSIS OF HASH BASED SIGNATURE SCHEMES // International Journal of Cyber-Security and Digital Forensics (IJCSDF), Vol 7. N1, 2017, p. 47-55.
42. Avtandil Gagnidze, Maksim Iavich, Giorgi Iashvili// Novel Version of Merkle Cryptosystem// BULLETIN OF THE GEORGIAN NATIONAL ACADEMY OF SCIENCES, vol. 11, no. 4, 2017, p. 28-33.
43. Iavich M. Vialkova V. // Critical Analysis of Signature Schemes // International Scientific Conference - State and Prospects of Reforming Sector of Security and Defense in Ukraine, Vol 1. 2017, p. 470-472.
44. S. Gnatyuk, V. Kinzeryavyy, M. Iavich, D. Prysiaznyi, K. Yubuzova; High-Performance Reliable Block Encryption Algorithms Securedagainst Linear and Differential Cryptanalytic Attacks; ICTERI 2018; <http://ceur-ws.org/Vol-2104/>; 2018.
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46. A.Gagnidze, M.Iavich, G.Iashvili, Improvement of Hash Based Digital Signature; CEUR Workshop Proceedings ([CEUR-WS.org](http://ceur-ws.org)), 2018.
47. N.Inassaridze, M.Iavich, E. Khmaladze, G. Iashvili, Naive Algorithm to Bos-Chaum One-Time Signature Scheme, Bulletin of the Georgian National Academy of Sciences, 2018.
48. Maksim Iavich, Sergiy Gnatyuk, Giorgi Iashvili, Andriy Fesenko, Cyber security European standards in business, Scientific and practical cyber security journal, 2019.
49. Maksim Iavich, Sergiy Gnatyuk, Giorgi Iashvili, Andriy Fesenko, Security methods against modern cyber-attack vectors in countries of Europe, Scientific and practical cyber security journal, 2019.
50. Maksim Iavich, Sergiy Gnatyuk, Giorgi Iashvili, AndriyFesenko, ENSURING EUROPEAN CIVIL AVIATION CYBERSECURITY, Scientific and practical cyber security journal, 2019.
51. Sergiy Gnatyuk, Maksim Iavich, Yuliia Polishchuk, Elza Jintcharadze and Andriy Fesenko, Comparison and hybridimplementation of Blowfish, Twofish and RSA cryptosystems; 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering (UKRCON); DOI: [10.1109/UKRCON.2019.8880005](https://doi.org/10.1109/UKRCON50005); 2019.
52. Zhengbing Hu, Sergiy Gnatyuk, Tetyana Okhrimenko(Zhmurko), Vasyl Kinzeryavyy, Maksim Iavich, Khalicha Yubuzova; High-Speed Privacy Amplification Method for Deterministic Quantum Cryptography Protocols Using Pairs of Entangled Qutrits; ICTERI 2019; <http://ceur-ws.org/Vol-2393/>; 2019.
53. R. Megrelishvili, M. Jinjikhadze, A. Gagnidze, M. Iavich and G. Iashvili; Generation of high order primitive matrix elements for post-quantum key exchange protocol; IVUS-2019; <http://ceur-ws.org/Vol-2470/>; pp. 48-51; 2019.
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56. Synthesis and Comparison of Hybrid Cryptographic Algorithms; M. Iavich, E. Jintcharadze; X International Conference of the Georgian Mathematical Union, 2019.
57. Intruder Control Mode Simulation of Deterministic Quantum Cryptography Protocol for Depolarized Quantum Channel; S. Gnatyuk, T. Okhrimenko, M. Iavich, R. Berdibayev; 2019 IEEE International Scientific-Practical Conference Problems of Info-communications, Science and Technology (PIC S&T); DOI: [10.1109/PICST47496.2019.9061293](https://doi.org/10.1109/PICST47496.2019.9061293); 2019.
58. ADVANTAGES AND CHALLENGES OF QRNG INTEGRATION INTO MERKLE; M. Iavich, T. Kuchukhidze, A. Gagnidze, G. Iashvili; Scientific and practical cyber security journal, 2020.
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60. Increasing the Accuracy of the Information Load Annual Growth Evaluation on the Internet of Things; I. Zhukov, N. Pechurin, L. Kondratova, M. Iavich; CMiGIN 2019; <http://ceur-ws.org/Vol-2588/>; 2020.
61. High-Speed and Secure PRNG for Cryptographic Applications; T. Okhrimenko, S. Tynymbayev, M. Iavich; I. J. Computer Network and Information Security, 2020, 3; DOI: 10.5815/ijenis.2020.03.01.
62. Improved Gentry's Fully Homomorphic Encryption Scheme: Design, Implementation and Performance Evaluation; S. Kazmircuk, A. Ilyenko, S. Ilyenko, Y. Olesya, M. Herasymenko, M. Iavich; CybHyg 2019; <http://ceur-ws.org/Vol-2654/>; 2020.
63. Informational Technology for the Improvement of Flight Zone Security; O. Kozhokhina, O. Shcherbyna, O. Churzha, S. Yehorov, M. Iavich, N. Churkin; CybHyg 2019; <http://ceur-ws.org/Vol-2654/>; 2020.
64. Iavich M., Gnatyuk S., Arakelian A., Iashvili G., Polishchuk Y., Prysiaznyi D. (2021) Improved Post-quantum Merkle Algorithm Based on Threads. In: Hu Z., Petoukhov S., Dychka I., He M. (eds) Advances in Computer Science for

Engineering and Education III. ICCSEEA 2020. Advances in Intelligent Systems and Computing, vol. 1247. Springer, Cham. https://doi.org/10.1007/978-3-030-55506-1_41.

65. Improvement of Merkle Signature Scheme by Means of Optical Quantum Random Number Generators; M. Iavich, A. Gagnidze, G. Iashvili, T. Okhrimenko, A. Arakelian, A. Fesenko; Advances in Computer Science for Engineering and Education III (pp.440-453), 2020; DOI: [10.1007/978-3-030-55506-1_40](https://doi.org/10.1007/978-3-030-55506-1_40).
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73. Improved Secure Stream Cipher for Cloud Computing; Sergiy Gnatyuk, Maksim Iavich, Vasyl Kinzeryavyy, Tetyana Okhrimenko, Yuliia Burmak, Iuliia Goncharenko; ICTERI 2020; (pp.183-197); <http://ceur-ws.org/Vol-2732/>
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75. Mathematical Model Building for COVID-19 Diseases Data in European Countries Maksym Zalisky, Roman Odarchenko, Yuliia Petrova, Maksim Iavich and Irakli Pirtskhala; IDDM 2020 The 3rd International Conference on Informatics & Data-Driven Medicine; <http://ceur-ws.org/Vol-2753/>.
76. Secure e-Health System for the Integrated Management of Personal Health Data Collected by IoT Devices; Razvan Bocu, Maksim Iavich, Sergiy Gnatyuk, Dinara Ospanova, Yuliia Sotnichenko; Cybersecurity Providing in Information and Telecommunication Systems 2021 (CPITS 2021); pp. 164-174; <http://ceur-ws.org/Vol-2923/paper18.pdf>, 2021.
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78. Novel Intrusion Detection System for 5G; Maksim Iavich, Avtandil Gagnidze, Giorgi Iashvili, Sergei Simonov, Razvan Bocu; IVUS 2021; pp. 27-34; <http://ceur-ws.org/Vol-2915/paper4.pdf>, 2021.
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80. Modeling of Critical Nodes in Complex Poorly Structured Organizational Systems; Tatiana Babenko, Hryhorii Hnatiienko, Vira Ignisca, Maksim Iavich; IVUS 2021; pp. 92-101; <http://ceur-ws.org/Vol-2915/paper11.pdf>, 2021.
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87. Novel Architecture of 5G Network; Giorgi Akhalaia, Maksim Iavich; IVUS 2021; pp. 11-17; <http://ceur-ws.org/Vol-2915/paper2.pdf>, 2021.
88. Modeling of Critical Nodes in Complex Poorly Structured Organizational Systems; Tatiana Babenko, Hryhorii Hnatienko, Vira Ignisca, Maksim Iavich; IVUS 2021; pp. 92-101; <http://ceur-ws.org/Vol-2915/paper11.pdf>, 2021.
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7. Inventions (Author's Certificate, Patents)

Years	Name

8. Membership in international scientific organizations

Years	Name
2023-till now	Cybersecurity Association of Maryland

9. Awards and Prizes

Date	Name of Awards, Prizes
2024	Gold Award in the nomination "Best Scientist of the Year", Caucasus University (Tbilisi, Georgia)
2021	The best scientific supervisor at "International Competition of Students Research Works in Cybersecurity", Ministry of Education of Ukraine (Kyiv, Ukraine)
2021	Best paper Award at "4th IEEE International Conference on Advance Information and Communication Technologies (AICT)"
2020	DeepSecScholar 2020, DeepSec Conference (Vienna, Austria)
2019	Best Paper Award, IVUS 2019 (Kaunas, Lithuania)
2018	Best Young Scientist award of 2018 year in Technologies and Engineering Sciences (Shota Rustaveli National Science Foundation of Georgia)
2018	Best Paper Award, IVUS 2018 (Kaunas, Lithuania)

10. Honorary Title

Date	Honorary Title
2024	Doctor of Science (Honoris Causa), National Aviation University (Ukraine)
2024	Scholar of Weiser Professional Development Fellows, University of Michigan (USA)