SEMI-ANNUAL REPORT OF MINISTRY OF SCIENCE AND EDUCATION REPUBLIC OF AZERBAIJAN INSTITUTE OF MATHEMATICS AND MECHANICS "MATHEMATICAL ANALYSIS" DEPARTMENT ON SCIENTIFIC AND SCIENTIFIC ACTIVITY FOR 2025

The staff of "Mathematical Analysis" department consists of 13 research associates, including 4 doctor of sciences,2 professors, one corresponding member of ANAS.

1) Vagif Guliyev – head of department (doct. phys. math. sci. prof. Corr. member of ANAS).
2) Rovshan Bandaliyev- doct. math. sci., senior researcher
3) Elman Ibrahimov – doct. math. sci., senior researcher
4) Hajibeyov Mubariz- doct. math. sci., senior researcher
5) Zaman Safarov - cand. phys. math. sci., ass. prof., leading researcher
6) Mehriban Omarova – ph. doctor in math., ass. prof., leading researcher
7) Elmira Hajiyeva – cand. phys. math. sci., res. ass.
8) Lala Aliyeva - ph. doctor in math., ass. prof., great researcher
9) Fatayi Isayev – ph. doctor in math., great researcher
10) Aytekin Abdullayeva – ph. doctor in math., great researcher
11) Aynur Mammadova – ph. doctor in math., great researcher
12) Aydın Gül Aydın - junior researcher.
13) Aliyeva Dunya Rasul - junior researcher.

I. SCIENTIFIC PART

In the first half of 2025, according to the affirmed plan, six scientific works on the themes of **"**Modern problems of harmonic analysis" are carried out.

Work 1: Boundedness of the potential operator and its commutator in Musielak–Orlicz–Morrey spaces defined on homogeneous type spaces.

Executors: Head of department, corr. member of ANAS, prof. V.S. Guliyev, ph. doctor in math., ass. prof., lead. res. M.N. Omarova

The research on the boundedness of the potential operator and its commutator, as well as the maximal operator, in Musielak–Orlicz–Morrey spaces defined on homogeneous type spaces has been carried out. In particular, the strong and weak type boundedness of the maximal operator in Musielak–Orlicz–Morrey spaces has been investigated. As an application of this result, a sufficient condition for the strong and weak Adams-type boundedness of the Riesz potential in these spaces has been established.

Based on the results of researches, the following papers were published.

1. K. Dorak, F. Deringoz, V.S. Guliyev, *Boundedness of the maximal operator and the Riesz potential on Musielak-Orlicz-Morrey spaces*, Hacettepe Journal of Mathematics and Statistics 54 (2025), no. 2, 1–16. (WOS-IF-0.9 Q2)
   https://dergipark.org.tr/en/download/article-file/3882185
2. V.S. Guliyev, *Generalized Holder estimates via generalized Morrey norms for Kolmogorov operators*, Azerbaijan Journal of Mathematics 15 (2025), no. 1, 228-242. (WOS-IF-0.6 Q3)
   https://doi.org/10.59849/2218-6816.2025.1.228
3. V.S. Guliyev, *Commutator of the maximal function in total Morrey spaces for the Dunkl operator on the real line*, Azerbaijan Journal of Mathematics 15 (2025), no. 2, 85-104. (WOS-IF-0.6 Q3)
   https://doi.org/10.59849/2218-6816.2025.2.85
4. Akbulut, V.S. Guliyev, M.N. Omarova, *Modified Orlicz-Morrey spaces*, Scientific Works of Azerbaijan University of Architecture and Construction (SW AzUAC), 2025, No. 2, pp. 1-8.
5. A. Akbulut, V.S. Guliyev, M.N. Omarova, *On third version of Orlicz-Morrey spaces*, Journal of Odlar Yurdu University, 2025, 1-9.
6. A. Akbulut, M.N. Omarova, A. Serbetci, *Generalized local mixed Morrey estimates for linear elliptic systems with discontinuous coefficients*, SOCAR Proceedings, No.1 (2025) 136-142. (Scopus-Q3)
   https://proceedings.socar.az/uploads/pdf/110/136_142_OGP20250101053.pdf
   DOI: 10.5510/OGP20250101053
7. M.N. Omarova, *Commutators of parabolic fractional maximal operators on parabolic total Morrey spaces*, Mathematical Methods in the Applied Sciences, 48(8), 2025, 1–8. (WOS-IF-2.9 Q1)

https://onlinelibrary.wiley.com/doi/10.1002/mma.10940
https://doi.org/10.1002/mma.10940

8. M.N. Omarova, *Commutators of anisotropic maximal operators with BMO functions on anisotropic total Morrey spaces*, Azerbaijan Journal of Mathematics 15 (2025), no. 2, 150-162. (WOS-IF-0.6 Q3)
https://azjm.org/volumes/1502/pdf/1502-11.pdf
https://doi.org/10.59849/2218-6816.2025.2.150
9. S. Celik, A. Akbulut, M.N. Omarova, *Characterizations of anisotropic Lipschitz functions via the commutators of anisotropic maximal function in total anisotropic Morrey spaces*, Trans. Natl. Acad. Sci. Azerb. Ser. Phys.-Tech. Math. Sci., Mathematics 45 (1) (2025), 25-37. SCOPUS impact factor 0.34 Q3
https://trans.imm.az/volumes/45-1/4501-03.pdf
https://doi.org/10.30546/2617-7900.45.1.2025.025
10. A. Akbulut, S. Celik, M.N. Omarova, *Commutator of fractional maximal operator associated with Schrodinger operator on generalized Morrey spaces*, Proceedings of the 9th International Conference on Control and Optimization with Industrial Applications, 2024, pp. 638-643. (Wos)

Theses

11. S. Celik, H.C. Calisgan, V.S. Guliyev, *Commutator of sharp maximal operator on total Morrey spaces*, Abstracts of the 3RD International Conference on Constructive Mathemtical Analysis, 02-05 July 2025, pp. 47.
12. A. Akbulut, N. Uyar, V.S. Guliyev, *Commutator of sharp anisotropic maximal operator on Lorentz spaces*, Abstracts of the 3RD International Conference on Constructive Mathemtical Analysis, 02-05 July 2025, pp. 157.
13. S. Celik, A. Akbulut, M.N. Omarova, *Commutator of anisotropic maximal operator on total anisotropic Morrey spaces*, Abstracts of the 3RD International Conference on Constructive Mathemtical Analysis, 02-05 July 2025, pp. 48.

Work 2: Embedding theorems in Sobolev spaces with variable exponents. Integral representation of functions from these spaces.

Executors: doct. math. sci., senior researcher Rovshan Bandaliyev., cand. phys. math. sci., ass.

prof., lead. res. ass Zaman Safarov, j.r. D.R. Aliyeva

In 2025, research was conducted according to the intended plan on the topic “Boundedness and compactness of the one-dimensional Hausdorff operator in Lebesgue spaces with variable exponents.” The main results of this study are presented in detail on papers No. 1 and No 5. The classical Hardy inequalities are known to be connected with the Hardy operator and its adjoint, the Bellman operator. The fractional Hausdorff operators naturally generalize fractional versions of these two operators. In this work, necessary and sufficient conditions on the weight functions ensuring the boundedness of fractional Hausdorff operators in weighted Lebesgue spaces are obtained.Under certain measure conditions, the boundedness of sublinear operators in weighted modular Banach function spaces (BFS) has been proved. Furthermore, sufficient conditions on the weight functions and the geometry of the modular BFS ensuring the validity of the strong inequality for sublinear operators have been determined.The reverse Hardy inequality has been established for the Hardy operator in weighted variable exponent Lebesgue spaces with exponent less than one. In particular, necessary and sufficient conditions on the weight functions ensuring the validity of the reverse Hardy inequality for the Hardy operator in weighted variable exponent Lebesgue spaces with negative exponents have been obtained. Similar results have also been proved for the adjoint Hardy operator.For discrete Hardy operators in weighted Musielak–Orlicz sequence spaces, necessary and sufficient conditions on the weight functions for their boundedness have been derived. Corresponding results have also been established for the adjoint discrete Hardy operator.Sufficient pointwise conditions on generalized Φ-functions have been obtained to ensure continuous embeddings between weighted Musielak–Orlicz sequence spaces.For the multidimensional Hausdorff operator, a sufficient integral condition relating the majorant of the operator’s kernel with the weight functions has been given to guarantee its boundedness from one weighted Lebesgue space to another. Moreover, similar results have been obtained for several important operators of harmonic analysis that appear as special cases of the multidimensional Hausdorff operator.An integral representation of functions in anisotropic Sobolev spaces with variable exponents has been established. Additionally, the boundedness of the differentiation operator from an anisotropic variable exponent Sobolev space to variable exponent Lebesgue spaces has been proved. In particular, under the global logarithmic–Hölder continuity condition on the variable exponents, the boundedness of the averaging function in the

variable Lebesgue space has been demonstrated.Finally, relatively compact sets in weighted Musielak–Orlicz sequence spaces have been investigated.

During the reporting year, the following articles and theses were published.

1. R.A. Bandaliyev, K.A. Babayeva, Kh.S. Nasirova, *On weighted* (L_p, L_q)*-boundedness characterization of fractional Hausdorff operator*, Bulletin of the Malaysian Mathematical Sciences Society, vol.48, art. 155, 2025, 20 pp. (WoS, Scopus, IF 1.2, Q1)
2. R.A. Bandaliyev, K.K. Omarova, B.S. Jafarova, *Strong type inequalities for sublinear operator on weighted modular Banach function spaces*, Filomat, vol.39, № 19, 2025, p.6629-6640. (WoS, Scopus, IF 0.9, Q2)
3. R.A. Bandaliyev, M.G. Aliyev, B.K. Agarzayev, *On reverse Hardy inequality in variable Lebesgue spaces*, Journal of Mathematical Inequalities, vol.19, №3, 2025, p.821-837. (WoS, Scopus, IF 1, Q2)
4. R.A. Bandaliyev, M.G. Aliyev, K.K. Omarova, *A boundedness criterion for the discrete Hardy operator on weighted Musielak-Orlicz sequence spaces*, Czechoslovak Mathematical Journal, vol.75, № 4, 2025, 18pp. (WoS, Scopus, IF 0.37, Q3)
5. R.A. Bandaliyev, J.N. Abdullayeva, I.T. Alekperova, *Two-weight norm inequality for multidimensional Hausdorff operator on Lebesgue spaces*, Trans. Natl. Acad. Sci. Azerb. Ser. Phys.-Tech. Math. Sci. Mathematics, vol.45, № 4, 2025, p.30-38 (Scopus, IF 0.34, Q3).
6. R.A. Bandaliyev, K.K. Omarova, S.M. Akhundova, *Compactness criterion in weighted Musielak-Orlicz sequence spaces and applications*, Transactions of A. Razmadze Mathematical Institute, vol.179, № 3, 2025, p.1-18. (WoS, Scopus, IF 0.4, Q4)

Theses

1. R.A. Bandaliyev, B.S. Jafarova, A.G. Mehdiyev, *Two-weight inequalities for Hausdorff operator in quasi-Banach Lebesgue spaces*, Inter. Conf. “Modern Civil Engineering Problems -MCEP 2025”, dedicated to the 50th Anniversary of Azerbaijan University of Architecture and Construction, Baku, Azerbaijan, June, 2025, p.1-3.
2. R.A. Bandaliyev, K.K. Omarova, S.M. Akhundova, *On complex interpolation theorem in variable Lebesgue spaces with mixed norm*, XV Inter. Conf. of the Georgian Mathematical

Union dedicated to the 90-th Anniversary of the Batumi Shota Rustaveli State University. Batumi, Georgia, September 1-6, 2025, p.58.

Work 3: Boundedness of maximal and fractional maximal operators on hypergroups in weighted Lebesgue spaces of variable exponent.

Executors: doct. math. sci., senior researcher Hajibeyov Mubariz. , cand. phys. math. sci., res. ass Elmira Hajiyeva

Boundedness of given maximal and fractional maximal operators in hypergroups in weighted Lebesque spaces of variable degree was investigated. Studies on this work are carried out.Based on the results of researches, the following papers were published. The thesis was published at the International Conference.

1. S.A. Aliyev, M.G. Hajibayov, F.A. Isayev, R.O. Jafarova, *Commutator of Marcinkiewicz integral on total mixed Morrey spaces*, Trans. Natl. Acad. Sci. Azerb. Ser. Phys.-Tech. Math. Sci. Mathematics, vol.45, № 4, 2025, p.20-29 (Scopus, IF 0.34, Q3).

Work 4: Criterion for the boundedness of a fractional integral operator generated by Gegenbauer differential operator in generalized Morrey spaces.

Executor: doct. math. sci., senior researcher Elman Ibrahimov, j.r. G.A. Aydin.

Work on the criterion for the boundedness of the fractional integral operator generated by Gegenbauer differential operator in generalized Morrey spaces are carried out. Based on the results of researches, the following papers were published.

1. E.J. Ibrahimov, A Meskhi, *Characterizations of the boundedness of commutators of G-fractional integral operators in generalized G-Morrey spaces on* $\mathbb{R}+$, Georgian Mathematical Journal, 2025, 18pp. (WoS, Scopus, IF 0.7, Q2) https://www.degruyterbrill.com › gmj-2025-2036 ›
2. E.J. Ibrahimov, S.Ar. Jafarova, G.A. Aydin, *$(L_{p,\lambda,\mu},L_{q,\lambda,\mu})$ boundedness of the G-fractional integral operator on G-Morrey spaces*, Analysis, vol. 45, 2025, Issue 1, p. 1-15. https://www.degruyterbrill.com/document/doi/10.1515/anly-2024-0016
3. E.J. Ibrahimov, S.Ar. Jafarova, G.A. Aydin, *Boundedness criteria of the commutators of G-fractional maximal and G-fractional integral operators on G-Morrey space*, Trans. Natl.

Acad. Sci. Azerb. Ser. Phys.-Tech. Math. Sci. Mathematics, vol.45, № 1, 2025, p.78-87 (Scopus, IF 0.34, Q3).
https://doi.org/10.30546/2617-7900.45.4.2025.087

Work 5: Boundedness of parabolic B-maximal and B-fractional integral operators in Lebesgue spaces with variable exponents.

Executors: cand. phys. math. sci., ass. prof., great researcher Lala Aliyeva, ph. doctor in math., great researcher Fatayi Isayev

Studies on the topic of boundedness of parabolic B-maximal and B-fractional integral operators in Lebesgue spaces with variable exponents is investigated.During the reporting year, the following articles and conference abstracts were published.

1. A. Akbulut, M.N. Omarova, F. Isayev, *Characterizations of anisotropic Lipschitz functions via the commutators of anisotropic maximal function in Lorentz spaces*, Integral Transforms and Special Functions 2025, 1-11. (WoS, Scopus, IF 1.0, Q2)
   https://doi.org/10.1080/10652469.2025.2544999
2. A.A. Akbarov, F.A. Isayev, M.I. Ismayilov, *Marcinkiewicz integral and its commutator on mixed Morrey spaces*, Trans. Natl. Acad. Sci. Azerb. Ser. Phys.-Tech. Math. Sci. Mathematics, vol.45, № 1, 2025, p.3-16 (Scopus, IF 0.34, Q3).
   https://doi.org/10.30546/2617-7900.44.4.2024.05
3. F.A. Isayev, M.N. Omarova, *Marcinkiewicz integral and their commutators on mixed Lebesgue spaces*, Proceedings of IAM, V.14, N.1, 2025, pp. 94-104.
   https://iamj.az/Files/7.Omarova%20M.pdf
   DOI: 10.30546/2225-0530.14.1.2025.094

Theses

1. L. Aliyeva, Singular integral operator in spaces defined by generalize oscillation, 6.Bilsel International sumela scientific researches congress, 12-13 april, pp. 35-36, 2025, Trabzon, Turkiye.
2. R.M. Rzaeva, L.R. Aliyeva, On Pointwise Multiplicators of the Space $BMO^{p}_{\varphi,\theta}$, "Riyaziyyat və Mexanikanın Müasir Problemləri" XII Beynəlxalq Elmi Konfrans 2025-ci il, 3-6 sentyabr, pp. 208-210.

https://mpmm.imm.az/abstract-2025.pdf

Work: 6. Some approximation theorems in Lebesgue spaces with variable exponents. Direct and inverse approximation theorems.

Executors: ph. doctor in math., great researcher Aytekin Abdullayeva, ph. doctor in math., great researcher Aynur Mammadova.

Research on some approximation theorems in Lebesgue spaces with variable exponents, focusing on direct and inverse approximation theorems has been carried out.During the reporting year, the following article and conference abstract were published.

1. A.E. Abdullayeva, R.F. Babayev, R.A. Bandaliyev, A.N. Mammadova, *Integral representation of differentiable functions and embedding theorem in variable Sobolev spaces*, JZU Natural Science, vol.56, № 8, 2025, p.496-511.

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2. A.N. Mammadova, A.E. Abdullayeva, *On continuity of multidimensional Hausdorff operators on weighted Lebesgue spaces*, "Riyaziyyat və Mexanikanın Müasir Problemləri" XII Beynəlxalq Elmi Konfrans 2025-ci il, 3-6 sentyabr, pp. 202-204.

II SCIENTIFIC ORGANIZATIONAL ACTIVITY

- The main priority of the department is modern problems of harmonic analysis.

- In the department the research works are carried out on 6 themes.

- The department staff consists of 13 collaborators. Two of them are professors (corr. member of ANAS), including 4 doctors of sciences ,7 Ph.D holders (r.f.d. and r.e.d.), and 6 are associate professor.

- Prof. V.S., Guliyev, doct. math. sci., senior researcher Rovshan Bandaliyev, doct. math. sci., senior researcher Elman Ibrahimov,ph. doctor in math., senior researcher Fatayi Isayev , ass. prof., lead. res. M.N. Omarova, cand. phys. math. sci., ass. prof., senior researcher Lala Aliyeva,: ph. doctor in math., senior researcher Aytekin Abdullayeva, ph. doctor in math., senior researcher Aynur Mammadova, G.A. Aydin, D.R. Aliyeva actively participated in general institute seminars. In the first quarter of annual report member of department, doct. math. sci.,

senior researcher Elman Ibrahimov and doct. math. sci., senior researcher Rovshan Bandaliyev delivered talk over the reports.

- Under the management of V.S. Guliyev seminars of the department named “Actual Issues of Harmonic Analysis” continued its activity on the second day of every week. In the seminars, prof .V.S.Guliyev, doct. math. sci., senior researcher Rovshan Bandaliyev, ph. doctor in math., senior researcher Fatayi Isayev , ass. prof., lead. res. M.N. Omarova, doctoral student of the department J. Azizov , G.A. Aydin give seminars.

- Prof. V.S. Guliyev has continued his activity as a member of the Presidium of the Higher Attestation Commission under the President of the Republic of Azerbaijan.

- Prof. V.Guliyev is the deputy editor-in-chief of the international journal "Applied and Computational Mathematics" with a high impact factor (WOS, IF 4.3) Q1. He is also a member of the international editorial board of the international journal "TWMS Journal Pure and Applied Mathematics" with a high impact factor (WOS, IF 3.2) Q1. In addition, he is a member of the editorial board of the international journals "Integral Transforms and Special Functions" (WOS, IF 1.0) Q2, "Eurasian Mathematical Journals" (WOS, IF 0.6) Q3, "Azerbaijan journal of Mathematics" (WOS, IF 0.7) Q3, "Proceedings of Institute of Mathematics and Mechanics of Azerbaijan" (WOS, IF 0.8) Q2, "SOCAR Proceedings" (WOS, IF 0.4) Q4 and "Journal of Contemporary Applied Mathematics" (SCOPUS, IF 0.115) Q4, and continues to work as one of the editors-in-chief of the journal "Caspian journal of Applied Mathematics, Ecology and Economics".

- During the year, Prof. V. Quliyev served as a reviewer for papers submitted to high-impact journals, including:”Journal of Fourier Analysis and Applications”,”Integral Transforms and Special Functions”,”Journal of Function Spaces”,”Journal of Mathematical Inequalities”,”Journal of Mathematical Analysis and Applications”,”Mathematische Nachrichten”,”Complex Variables and Elliptic Equations”,”Communications in Mathematical Analysis”,”Journal of Inequalities and Applications”,”Collectanea Mathematica”as well as other high-impact international journals.

- Under the management of Prof V.Guliyev as an editor-in-chief, **vol. 45, no 1, 2025** və **vol. 45, no 4, 2025** issue of ″Transactions of Azerbaijan National Academy of Science, Issue Mathematics, Series of physical-technical and mathematics science″ was completed and released.

Prof V.Guliyev's scientific works have a total of 2,524 citations in the WoS-Clarivate Analytics database, 1,519 citations in MathSciNet Mathematical Reviews, 2,932 citations in the Scopus database, and 6,144 citations in Google Scholar. In 2025 , his publications have received 410 citations in Google Scholar.

The department's senior researcher, doct. math. sci. Rovshan Bandaliyev has a total of 260 citations in the WoS-Clarivate Analytics database, 261 citations in Scopus, and 648 citations in Google Scholar. In 2025, his publications received 91 citations in Google Scholar.

The department's senior researcher, doct. math. sci. Elman Ibrahimov has a total of 78 citations in the WoS-Clarivate Analytics database and 146 citations in Google Scholar. In 2025, his publications received 23 citations in Google Scholar.

The department's leading researcher, ph. doctor in math., ass. M.N. Omarova has a total of 237 citations in the WoS-Clarivate Analytics database, 378 citations in Scopus, and 576 citations in Google Scholar. In 2025, her publications received 56 citations in Google Scholar.

doct. math. sci., senior researcher Rovshan Bandaliyev serves as a member of the **ED 1.04 Doctoral Dissertation Council** at the Institute of Mathematics and Mechanics of ANAS, while doct. math. sci., senior researcher Elman Ibrahimov and doct. math. sci., senior researcher Hajibeyov Mubariz are members of the **scientific seminar under the management the ED 1.04 Dissertation Council**.

doct. math. sci., senior researcher Rovshan Bandaliyev is the responsible secretary of the journal "Transactions Issue Mathematics. National Academy of Sciences of Azerbaijan"," Series of Physical-Technical & Mathematical Sciences (indexed in Scopus)" and a member of the editorial boards of "Azerbaijan Journal of Mathematics, Journal of Function Spaces", and "Journal of Applied Mathematics". During the year, he has reviewed papers submitted to various international journals, including "Filomat", "Bulletin of the Malaysian Mathematical Sciences Society", "Fractional Calculus and Applied Mathematics", "Afrika Matematika", "Azerbaijan Journal of Mathematics", "Journal of Mathematical Sciences", and "Mathematical Methods in the Applied Sciences". In 2025, doct. math. sci., senior researcher Rovshan Bandaliyev and doct. math. sci., senior researcher Elman Ibrahimov delivered lectures over their researches at the XV Annual International Conference of the Georgian Mathematical Union held in Batumi, Georgia The conference was attended by scientists from 45 countries, including E. Liflyand, D. Cruz-Uribe, P. Jain, A. Almeida, H. Rafeiro, A. Meskhi, D. Suragan, among others. Additionally, doct.

math. sci., senior researcher Rovshan Bandaliyev delivered a talk at an international conference dedicated to the 50th anniversary of AZMIU.

Department staff ph. doctor in math., senior researcher Aytekin Abdullayeva and ph. doctor in math., senior researcher Aynur Mammadova presented their researches at the XII International Scientific Conference on Modern Problems of Mathematics and Mechanics and also participated as members of the working group.

SCIENTIFIC COLLABORATIONS

The department's researchers maintain active scientific collaborations with distinguished scholars from many prestigious universities around the world, including:Prof. Yoshihiro Sawano (Tokyo Metropolitan University, Japan),Prof. Stefan Samko (University of Algarve, Portugal),Prof. Maria Alessandra Ragusa (University of Catania, Italy),Prof. Viktor Burenkov (Peoples' Friendship University of Russia, Moscow),Prof. Ayhan Şerbetçi (Ankara University, Ankara, Türkiye).

PEDAGOGICAL ACTIVITY

Among the members of department , doct. math. sci., senior researcher Rovshan Bandaliyev at the Azerbaijan University of Architecture and Construction; doct. math. sci., senior researcher Professor M.G. Hajibayov at the National Aviation Academy; cand. phys. math. sci., ass.

prof., lead. res. ass Z. Safarov at the Azerbaijan State Oil and Industry University; ass. prof., lead. res. M.N. Omarova at Baku State University ph. doctor in math., great researcher Aytekin Abdullayeva at the Heydar Aliyev Military Institute and ph. doctor in math., great researcher Aynur Mammadova at Baku Business University dealing with pedagogical activities .

They are actively engaged in teaching alongside their scientific research work.

DEFENSES

The department's Doctor of Sciences candidate, Associate Professor, Senior Researcher Mehriban Nazim qızı Ömərova, has submitted her dissertation to the scientific council for defense.

The department's part-time doctoral student, Xalidə Sahil qızı Nəsirova, has completed the fourth year of her doctoral studies and continues her research work on her dissertation topic.

PUBLISHED ARTICLES AND THESES

In the first quarter of annual report 24 articles (12 in international journals and 10 in local journals), of which 13 are indexed in Web of Science (impact factor journals) and 6 in Scopus. Additionally, 8 conference abstracts were published in international conferences. A total of 5 abstracts were submitted for presentation at international and national conferences. Furthermore, 6 articles have been accepted for publication, and 8 articles have been submitted for publication.

Head of the department
"Mathematical Analysis"

Corr. member of NASA,
prof. V.S. GULIYEV