

CV OF GANBAROV KHUDAVERDİ GANBAR

POSITION	Head of the department of Microbiology of Baku State University	(Photo to)
SCIENTIFIC DEGREE	Doctor of biological sciences, professor	
TELEPHONE FAX	(+99450) 3270556 mobile (+99412)5370824 office	
EMAIL	khuda1949@mail.ru khganbarov@bsu.edu.az	
DATE OF BIRTH	30.07.1949, Lerik region, Azerbaijan	
EDUCATION	1956 - 1966 - Pensar high school, Astara region, Azerbaijan 1969-1973 – student of the biological faculty of Baku State University, biologist 1975-1978 - graduate student of Institute of biochemistry and physiology of microorganisms (IBPM) of Academy of Sciences of the USSR (Russia)	
ACADEMIC DEGREE	1979 - Candidate of biological sciences, IBPM Academy of Sciences of the USSR (Russia) 1989 - Doctor of biological sciences, Moscow State University (Moscow, Russia)	
ACADEMIC TITLE	1995 – Professor	
WORK ACTIVITIES	In 1973 worked in Institute of microbiology of Azerbaijan National Academy of Sciences, senior laboratory assistant, research assistant; In 1974-1983 worked in Institute of Biochemistry and Physiology of Microorganisms (IBPM) Academy of Sciences of USSR (Russia): in 1974-1975 did a special course (trainer); in 1975-1978 was a postgraduate on microbiology; in 1979-1983- was a scientific worker; in 1983-1991 was a head of laboratory “Bioconversion of plant raw materials” in Institute of microbiology of Azerbaijan National Academy of Sciences;, in 1992-2011 professor of Department of Microbiology of Baku State University(BSU); From 2011 working head of Department of Microbiology of BSU From 2020 working head of Research Laboratory “Microbiology and Virology” of BSU	
INTERNSHIP AND TRAINING COURSE	In 1980- Institute of Molecular biology and Microbiology. Prague, Czechoslovakia In 1982- Department of Microbiology of Helsinki University. Helsinki, Finland In 2003- Department of Biology of Gebze high technology Institute. Istanbul, Turkey In 2006- Faculty of Bioscience Engineering of Gent University. Gent. Belgium. In 2014- Department of Biotechnology of Mannheim University. Mannheim, Germany In 2015- Department of Biomedical Science of Westminster University. London, UK In 2015- Department of Bioscience of Coruna University. Coruna, Spain	
TEACHING COURSES	General Microbiology, Biotechnology, Industrial microbiology, Biochemistry of microorganisms, Microbial ecology	

**PARTİCİPATION
İN THE
INTERNATIONAL
SEMINARS,
SYMPOSİUMS
AND
CONFERENCES**

- 1.Third Baikal International syposium on Microbiology. 2011, Irkutsk (Russia)
- 2.Euapean Biotechnology congress, 2012. Kayseri (Turkey) .
2. International conference "Microbic biotechnologies: fundamentals and application aspects", 2013, Minsk (Belarusiya).
3. International congress "Europen Biotexnology Congress", 2014, Rome (Italy).
4. International scientific practical conference "Science and Education in the 21 st Century", 2015,Tombov (Russia).
5. International congress "European Biotechnology congress", 2015, Budapest (Hungary).
6. International conference "Microbic biotechnologies: fundamentals and application aspects", 2015, Minsk (Belarusiya).
7. International congress "European Biotechnology congress", 2016, Riga (Latvia).
8. International conference "Achievements and prospects of microbiology", 2016, Lviv (Ukraine).
9. International conference "Microbial biotechnologies: fundamentals and application aspects", 2017, Minsk (Belarusiya).
10. International conference "Microbial biotechnologies: fundamentals and application aspects".2019, Minsk (Belarusiya)

**SELECTED
SCİENTİFİC
ARTİCLES**

1. Yousefi L., Osquee O., Rezaee M., Pirzahdeh T., Hemmati F., Moaddab Y., Yousefi M, Somi M., Ganbarov K., Kafil H. Review Article.Dysregulation of lncRNA in Helicobacter pylori-Infected GastricCancer Cells. **Biomed Research International**, 2021, ID6911734, 1-10
2. Ozma M., Khodadadi E., Rezaee M., Kamunah F., Ganbarov K., Aghazadeh M., Yousefi M., Firzadeh T., Kafil H. Induction of proteome changes involved in biofilm formation of *Enterococcus faecalis* in response to gentamicin. **Microbial Pathogenesis**, 2021,157,105003,1-7
3. Ozma M., Khodadadi E., Pakdel P., Kamounab F., Yousefi M., Ganbarov K., Kafil H. Baicalin, a natural antimicrobial and anti-biofilm agent. **Journal of Herbal Medicine**, 2021,27,100432,1-7
4. Fathizadeh H., Afshar S., Masoudi M., Gholizadeh P., Ganbarov K., Koze S., Yousefi M., Kafil H. SARS-CoV-2 (Covid-19) vaccines structure, mechanisms and effectiveness: A review. **International Journal of Biological Macromolecules**, 2021,188, 740-750
5. Azizian K., Osquu O., Pourlak T., Asgharzadeh M., Ganbarov K., Kafil H. Genetic diversity of *Lactobacillus* spp. Isolates from oral cavity and their probiotic and antimicrobial properties. **Gene Reports**, 2021,24,101231,2-6
6. Fathizadeh H., Taghizadeh S., Safari R., Khiabani S., Babak B., Ganbarov K., Esposito S., Zeinalzadeh E., Dao S., Koze S., Kafil H. Study presence of COVID-19 (SARS-CoV-2) in the sweat of patients infected with Covid-19. **Micribial Pathogenesis**,2020, 149, 104556, 1-5
7. Karimi N., Jabbari V., Nazemi A., Ganbarov K., Tanomand A., Karimi S., Abbasi A., Yousefi B., Khodadadi S., Kafil H. Thymol, cardamom and *Lactobacillus plantarum* nanoparticles as a functional candy with high protection against *Streptococcus mutans* and tooth decay. **Microbial Pathogenesis**, 2020, 148,104481, 1-8
8. Khodadadi E., Maroufi P., Esposito I., Ganbarov K., Esposito S., Yousefi M., Zeinalzadeh E., Kafil H. Study of combining virtual screening and antiviral treatments of the SARS-CoV-2 (COVID-19). **Microbial Pathogenesis**, 2020, 146, 104241
9. Gholizadeh P., Safari R., Maroufi P., Pagliano P., Ganbarov K., Esposito

- S., Khodadadi E., Youaifi M., Kafil H. Alteration of liver biomarkers in patients eith SARS-CoV-2 (COVID-19). **Journal of Inflammation Research**, 2020,13, 285-292.
- 10.** Abdi S., Ghotaslou R., Ganbarov K., Mobed A., Tanomand A., Yousefi M, Asgharzadeh M., Kafil H. Acinetobacter baumanii efflux pumps and antibiotic resistance. **Infection and Drug Resistance**, 2020,13, 423-434.
- 11.** Najafi K., Ganbarov K., Gholizadeh P., Tanomand A., Rezaee M., Mahmood S., Asgharzadeh M., Kafil H. Oral cavity infaction by Enterococcus faescakis: virulence factor and pathogenesis. **Reviews in Medical Microbiology**, 2020,31,51-60
- 12.** Rahimi M., Nouruzi E., Ebadi B., Kariminezhad Z., Mehribani M., Yousefi M., Ahmadi R., Yousefi R., Ganbarov K., Kamounah F., Irannecad V., Kafil H. Carbohydrate polymer- based silver nanocomposites: recent progress in the antimicrobial wound dressing. **Carbohydrate Polymers**, 2020, 231, 115696.
- 13.** Fathizadeh H., Hayat S., dao S., Ganbarov K., Tanomand A., Asgharzadeh M., Kafil H. Long non-coding RNA molecules in tuberculosis. **International Journal of Biological Macromolecules**, 2020, 156, 340-346.
- 14.** Abdi S., Ghotaslou R., Aghazadeh M., Hasani A., Baghi H., Tanomand A., Narenji H., Yousefi B., Bastami M., Ganbarov K., Kafil H. AdeB efflux pump gene knockdown by mRNA mediated peptide nucleic acid in multidruge resistance Acinetobacter baumaniii. **Microbial Pathogenesis**, 2020, 139, 103825
- 15.** Gholizadeh P., Koze S., Dao S., Ganbarov K., Tanomand A., Dal T., Agazadeh M., Ghotaslou R., Rezaee M., Yousefi B., Kafil H. How CRISPR-Cas system could be used to combat antibacterial resistance. **Infection and Drug resistance**, 2020,13, 1111-1121
- 16.** Yousefi L., Leylabadlo H., Purlak T., Taghizadeh S., Ganbarov K., Yousefi M., Tanomand A., Yousef B., Kafil . Oral spirochaetes: Pathogenic mechanisms in peridontal disease. **Microbial pathogenesis**, 2020,144,104193.
- 17.** Fathizadeh H., Maroufi P., Dao S., Koze S., Ganbarov K., Pagliano P., Esposito S., Kafil H. Protection and desinfaction policies against SARS-CoV-2(COVID-19). **Le Infezioni in Medicina**, 2020, 2, 185-191.
- 18.** Ozma M., Maroufi P., Koze S., Esposito I., Ganbarov K., Dao S., Esposito S., Dal T., Kafil H. Clinical mnaifastation, diagnosis, prevention and control of SARS-CoV-2(COVID-19) during the outbreak period. **Le Infezioni in Medicina**, 2020, 2, 153-165.
- 19.** Narnji H., Teymournecad O., Rezaee M., Taghizadeh S., Mehramuz B., Madhi M., Gholizadeh P., Ganbarov K., Yousefi M., Pakravan A., ahmadi R., Kafil H. Antisence peptide nucleic acides against ftsZ and faA gens inhibit growth and biofilm formation of Enterococcus faecalis. **Microbial Pathogenesis**, 2020,139, 103907
- 20.** Fakhri E., Eslami H., Maroufi P., Taghizadeh S., Ganbarov K., Yousefi M., Tanomand A., Yousefi R., Mahmoudi S., Kafil H. Chitozan biomaterials application in dentistry. **International Journal of Biological Macromolecules**, 2020, 162, 956-974.
- 21.** Khodadadi E., Zeinalzadeh E., Taghizadeh S., Kamounah F., Ganbarov K., Yousefi B., BastamiM., Kafil H. Proteomic applications in antimicrobial resistance and clinical microbiology studies. **Infection and Drug**

- Resistance**, 2020, 13, 1785-1806.
- 22.** Kanmohammadi S., Karimian R., Mehribani M., Ganbarov K., Ejlali L., Tanomand A., Kamounah F., Rezaee M., Yousefi M., Sheykhssaran E., Kafil H. poly cellulose nanofiber blend nanocomposites containing ZrO₂ nanoparticles: A new biocompatible wound dressing bandage with antibacterial activity. **Advanced Pharmaceutical Bulletin**, 2020, 10(4), 577-585.
- 23.** Leylabadlo H., Ghotaslou R., Feizabadi M., Faracnia S., Ganbarov K., Khodadadi E., Tanomand A., Sheykhssaran E., Yousefi B., Kafil H. The critical role of Faecalibacterium prausnitzii in human health: An overview. **Microbial Pathogenesis**, 2020, 149, 104344
- 24.** Ismiyev A., Shoaib M., Dotsenko V., Ganbarov K., Israyilova A., Magerramov A., Synthesis and biological activity of 8-(dialkylamino)-3-aryl-6-oxo-3,2,4-dicyanobicyclo(3,2,1) octano-2,4- dicarboxylic acids diethyl esters. **Russian Journal General Chemistry**, 2020, 90(8), 1-8
- 25.** Shikhaliyev N., Suleymanova G., Israyilova A., Ganbarov K., Babayeva G., Garazada K., Manmmadova G., Nenajdenko V. Synthesis, characterization and antibacterial studies of Dichlorodiazadienes. **Arkivoc**, 2019, 6, 64-73.
- 26.** Hajiyeva S., Hasanova U., Gakhramanova Z., Israyilova A., Ganbarov K., Gasimov E., Rzayev F., Eyvazova G., Huseynzada A., Aliyeva G., Hasanova I., Maharramov A. The role of diazacrown ether in the enhancement of the biological activity of silver nanoparticles. **Turkish Journal of Chemistry**, 2019, 43, 1711-1721.
- 27.** Aghapour Z., Gholizadeh P., Ganbarov K., Bialvaei A., Mahmood S., Tanomand A., Yousefi M., Asgharzadeh M., Yousefi B., Kafil H. Molecular mechanisms related to colistin resistance in Enterobacteriaceae. **Infection and Drug Resistance**, 2019, 12, 965-975.
- 28.** Karimi N., Ghanbarzadeh B., Hojabri Z., Ganbarov K., Kafil H., Hamishehkar H., Yousefi M., Mokarram R., Kamounah F., Yousefi B., Moaddab S. Turmeric extract loaded nanoliposome as a potential antioxidant and antimicrobial nanocarrier for food application. **Food Biosciences**, 2019, 29, 110-117.
- 29.** Ahmadi R., Tanomand A., Kazeminava F., Agaseh A., Ganbarov K., Yousefi M., Katourani A., Yousefi B., Kafil H. Fabrication and characterization of a titanium dioxide nanoparticles reinforced bio-nanocomposite containing Miswak (Salvadora persica L.) extract- the antimicrobial, thermo-physical and barrier properties. **International Journal of Nanomedicine**, 2019, 14, 3439-3454
- 30.** Gholizadeh P., Mahallei M., Pormohammad A., Varshochi M., Ganbarov K., Zeinalzadeh E., Yousefi B., Bastami M., Tanomand A., Mahmood S., Yousefi M., Kafil H. Microbial balance in the intestinal microbiota and its association with diabetes, obesity and allergic disease. **Microbial Pathogenesis**, 2019, 127, 48-55
- 31.** Rahimi M., Kariman R., Norusi E., Ganbarov K., Zarei M., Yousefi B., Bastami M., Yousefi M., Kafil H. Needle- shaped amphoteric delivery of anticancer drugs to the breast cancer cells. **International Journal of Nanomedicine**, 2019, 14, 2619-2636
- 32.** Nezhadi J., Narenji H., Barhaghi S., Rezaee M., Pirzadeh T., Tanomand A., Ganbarov K., Bastami M., Madhi M., Yousefi M., Kafil H. Peptid nucleic acid-mediated re-sensitization of colistin resistance Escherichia coli KP81 harboring ncr-1 plasmid. **Microbial Pathogenesis**, 2019, 135,

- 33.** Yanina A. Delegan, Leonid N. Valentovich, Samira M. Shafieva, Khudaverdi G. Ganbarov, Andrey E. Filonov, Mikhail B. Vainstein1 Characterization and genomic analysis of highly efficient thermotolerant oil-degrading bacterium Gordonia sp. 1D. **Folia Microbiologica**, 2019, v.64, p. 41-48
- 34.** Mahsa Beomidehagh, Mohammad Ahangarzadeh Rezaee, Khudaverdi Ganbarov, Farnaz Jafari, Alka Hasani, Naser Alizadeh, Asghar Tanomand, Hossein Samadi Kafil. Effect of acidic and alkali shocks on expression of *efaA* gene in *Enterococcus faecalis*, isolated from root canal infection. **Cellular and Molecular Biology**, 2018, V.64, Is.13, p.1-5
- 35.** Duruskari G.S., Maharramov M.N., Hasanova U.S., Ganbarov K.G., Eyvazova G.M., Israyilova A.A. and Maharramov A.M. Synthesis and Antimicrobial Properties of New Derivatives of Morpholine and Piperidine Based on 1-Chloro-3-methoxy-propylbenzene. **Asian Journal of Chemistry**, 2018, V. 30, No. 2, p.269-272
- 36.** Masoumikia R.Y., Ganbarov Kh.G., Abdullayeva N.A., Youshari N. Screening, isolation and identification lactic acid bacteria with probiotic potential from traditional dairy products of Azerbaijan. **German Science Herald**, 2017, N3, p.30-34.
- 37.** Maharramov A.M., Israyilova A.A., Allahverdiyev M., Huseynova F., Yilmaz F., Ganbarov K.G. Antimicrobial activity of carbamide derivatives against grampositive and gramnegative bacteria // **Микробные Биотехнологии: Фундаментальные и прикладные аспекты**. Минск, 2017, Том 9, С. 86-92
- 38.** Hasanova S., Guliyeva S., Kelbiyeva S., Suleymanova G., Babayeva I., Ganbarov K.G. The study of morphological and cultural properties of Actinomycetes forming silver nanoparticles // **Advances in Biology and Earth Sciences**, 2017, V.2, N 2, P.168-174
- 39.** Ganbarov K.G., Jafarov M.M., Agamaliyev Z.A. et al. Biosynthesis of silver nanoparticles using *Sacchoromyces* sp. BDU-XR1. **German Science Herald**, 2017, N1, p.7-9
- 40.** Абдулгамирова С.М., Сулейманова Г.Ч., Бабаева И.Т., Ганбаров Х.Г. Методы хранения бактерий в коллекции культур Бакинского Государственного Университета // **Микробные Биотехнологии: Фундаментальные и прикладные аспекты**. Минск, 2017, Том 9, С.31-36
- 41.** Ganbarov K.G., Shafiyeva S.M., Agay N.A., Delegan Y.A., Petrikov K.V., Agamaliyev Z.A., Eyvazova G.M. Formation of silver nanoparticles using biomass of bacterium *Actinomyces* sp. NSX-333 // **German Science Herald**, 2017, N6, P.23-25
- 42.** Ganbarov K.G., Suleymanova G.Ch., Babayeva R.F. Dioxygenases activity of wood-destroying white-rot fungi, isolated from woody Biogeocenosis. **Inter. J. Innovative Res. in Science, Engin. Technology** 2016, v.5, N 8, p. 15552-15556
- 43.** Ganbarov K.G., Mammadova R.M., Agayeva S.A., Hosseinnecat S.S. Antimicrobial activity of essential oils of aromatic plants. **Inter. J. Innovative Res. in Science, Engin. Technology**, 2016, vol.5, N 11, p. 19775-19780
- 44.** Ganbarov K.G., Jafarov M.M., Hajiyeva F.T. et al. Mycogenic formation of silver nanoparticles by the Azerbaijani Environmental isolate *Candida macedoniensis*, **International journal of research studies**

- in Biosciences**, 2016, V.4, N5, pp.1-5
- 45.** Agalarov R., Abdullayev Kh., Ganbarov K., Gasanov R. Antioxidant and free radical quenching activities of traditional medicine substances, honey and vine products of Azerbaijan Republic. **Journal of Biotechnology**, 2016, v.231, p S61
- 46.** Israyilova A., Ganbarov K., Shikhaliyev N., Maharramov A. Antimicrobial activity of halogen-bonded bis-(2,4-bistrichloromethyl)me(II), [Ni,Cu] complexes. **Journal of Biotechnology**, 2015, v.208. p. S27
- 47.** Ganbarov K.G., Suleymanova G.Ch., Hasanova S.A., Babayeva I.T. Temperature relation of the wood-rotting basidiomycetes, isolated from Tugay forests of Azerbaijan. **Inetrnational Jour. Applied and pure science and agriculture**. 2015, v.1, N9, p.54-58
- 48.** Masoumikia R., Ganbarov K. Antagonistic activity of probiotic lactobacilli against human enteropathogenic bacteria in homemade tvorog curd cheese from Azerbaijan. **Biolmpacts**, 2015, 5(3), 151-154.
Doi:10.15171/bi.2015.21
- 49.** Гасанова С.А., Ганбаров Х.Г., Гулиева С.М., Эйвазова Г., Агамалиев З. Исследование образования наночастиц серебра культурой Streptomyces sp. BDU-17 // **Микробные Биотехнологии: Фундаментальные и прикладные аспекты**. Минск, 2015, Т.7, С.326-333
- Khanghah S.M., Ganbarov K. Lactobacillus with probiotic potential from homemade cheese in Azerbaijan. **BioImpact**, 2014, 4(1), 49-52.
Doi:10.5681/bi.2014.014
- 50.** Ganbarov K., Ahmadov I. et al. Silver nanoparticles synthesized by the Azerbaijan environmental isolates Aspergillus niger. **Jour. Microbiology, Biotechnology and Food Sciences**, 2014, N.4, N2, p.137-141
- 51.** Ганбаров Х.Г., Мусев Е.М., Ахмедов И.С., Рамазанов М, А., Эйвазова Г.М. Образование наночастиц с помощью микроорганизмов // **Микробные Биотехнологии: Фундаментальные и прикладные аспекты**. Минск, 2013, Т.5, С. 39-50
- 52.** Ganbarov K.G., Muradov P.Z. Cellulolytic activity of wood-destroying basidiomycetes of genus Bjerkandera P.Karst. in submerged and solid fermentation // **Mikologiya i phytopathologiya**, 1991, 25(1), P. 48- 52 (in Russian).
- 53.** Ganbarov K.G. Degradation of vine trimmings lignocellulosic complex by Tinder fungi / **Materials of Soviet-Finish seminar on bioconversion of plant raw materials by microorganisms**, Riga, 26-29 September 1988, Pushchino, 1989, P.134-142.
- 54.** Ganbarov K.G., Muradov P.Z. Endo-1,4- glucanase activity of wood-destroying basidiomycetes from the genus Bjercandera P.Karst. // **Mikologiya I Phytopathologiya**, 1989, 23(4), P.374-377(in Russian)
- 55.** Ганбаров Х.Г., Мурадов П.З., Самедова Р.Ф., Мамедьяров М.А. Биоконверсия обрезков виноградной лозы дереворазрушающими базидиальными грибами // **Chimiya Drevesini**, 1987, № 1, P. 61-64 (in Russian)
- 56.** Ganbarov K.G., Muradov P.Z., Atakishiyeva Y.Y. Some characters of polysaccharase and oxidase biosynthesis by a wood-attacking basidiomycete Bjerkandera adusta (Fr.) Karst. // **Mikologiya i phytopathologiya**, 1986, 20(6), P.485-489 (in Russian).
- 57.** Golovleva L.A., Golovlev E.L., Chermensky D., Ganbarov K.G.,

- Brustavetskaya T. Solid-state fermentation of plant raw materials // **Bioconversion of plant raw materials of microorganisms**. Helsinki, 1983, P.22-43
- 58.** Golovleva L.A., Ganbarov K.G., Skryabin G.K. Lignin decomposition by fungal cultures // **Microbiology**, 1982, 51(4), P.543-547 (Translated from Russian, Consultants burean, New York).
- 59.** Golovleva L.A., Golovlev E.L., Ganbarov K.G., Skryabin G.K. Role of cosubstrates in microbiological oxidation of isomeric xylenes // **Microbiology**, 1977, 46(1), P.5-8 (Translated from Russian, Consultants burean, New York).
- 60.** Skryabin G.K., Golovleva L.A., Golovlev E.L., Zyakun A.M., Ganbarov K.G., Shurukhin Y.V. Anaerobic oxidation of p-xylene by microorganisms // Proceedings of the Academy of Sciences of the USSR. Biological sciences Sections, 1977, 236(1-6), P.415-416 (in Russian)
- 61.** Ganbarov K.G., Golovleva L.A., Chervin I.I., Adanin V.M., Nefedova M.Y., Ismailov N.M. Peripheral metabolism of isomeric xylenes by culture of *Pseudomonas aeruginosa* // **Microbiology**, 1976, 45(6), P.815-816 (Translated from Russian, Consultants burean, New York)/

BOOKS

Textbooks and manuals:

1. Məmmədov Z.M., Qənbərov X.Q., Ağayeva N.A. İmmunologiya (Immunology). Bakı: Bakı Universiteti Nəşriyyatı, 2018, 312 s.
2. Qənbərov X.Q., Cəfərov M.M. Sənaye mikrobiologiyasının əsasları (Industrial microbiology). Bakı, 2018, 292 p.
3. Qənbərov X.Q., Cəfərov M.M., Hüseynova S.İ., Əbdülhəmidova S.M. Maya göbələklərinin biologiyası (Biology of yeasts). Bakı, 2016, 234 s.
4. Qənbərov X.Q., Abuşev R.A., Süleymanova G.Ç., Həsənova S.A. Virusologiya (Virology). Bakı, 2013, 192s
5. Qənbərov X.Q., Abdullayeva N.A. Mikroorganizmlərin biokimiyası. Bakı, 2013, 172s
6. Ганбаров Х.Г., Абдуллаева Н.А. Биохимия микроорганизмов (Biochemistry of microorganisms), Баку, 2008, 2004 с
7. Ганбаров Х.Г., Таги-заде З.А., Кулиева Н.А. Биотехнология (Biotechnology). Баку, 2005, 360с.

Monographs:

1. Ganbarov K., Mammadov R., Agayeva N., Abdulhamidova S. Antimicrobial activity of essential oils of aromatic plants. Lambert Academic publishing. Saarbrücken. Germany, 2016, 191p.
2. Qənbərov X., Məmmədova R. Azərbaycanın ətirli bitkilərindən alınmış

INVENTİONS

- efir yağlarının antimikrob xassələri. Bakı: Elm, 213, 207 s.
3. Qənbərov X.Q., Cəfərov M. Azərbaycan ərazisində evdə hazırlanan qatıqların mikrobiologiyası. Bakı; Elm, 2013, 346 s.
4. Ганбаров Х.Г., Абдулгамидова С. Изменчивость дрожжей и коррекция их свойств электромагнитами полями. Lambert Academic publishing. Berlin, 2012, 144с.
5. Qənbərov X.Q., Ağayeva S.A., Sadıxov A.S. Taliş meşələrinin mikoriza əmələgətirən bazidial göbələkləri. baki, 2012, 178 s
6. Qənbərov X.Q., Kəromov V.M. Samur-Dəvəçi ovalığı meşələrində yayılmış ağacçüründən bazidili göbələklərin eko-bioloji xüsusiyyətləri. Bakı, 2011, 152s.

1. Магеррамов А.М., Байрамов М.Р., Ганбаров Х.Г., Мамедов И.Г., Джавадова З. М., Агаева М.А., Джавадов.М.А., Исраилова А.А., Гасanova Г.М. 2-Гидрокси-3-аллил-5-изодецилбензил-диэтиламмоний хлорид в качестве специфического бактерицида против онасного патогена *Staphyl. aureus*. **Евразийский патент № 037888**, 01.06.2021
2. Qənbərov X.Q., İsmiyev A.İ., Shoaib M., İsrayılova A.Ə., Məhərrəmov A.M. Etil-6-hidroksi-6-metil-3- okso-4-fenil-1,3,4,5,6,7-heksahidrobenzo-(1,2) oksasol-5-karboksilat qram-mənfi bakteriyalara qarşı antimikrob vasitə kimi, Azərbaycan Respublikası. **Patent ixtira İ20200097**, 30.11.2020
3. Qənbərov X.Q., Şəfiyeva S.M., Ağayeva N. A. *Candida* cinsi sporəmələgətirməyən maya göbələklərinin kulturalar kolleksiyasında uzun müddət saxlanma üsulu. Azərbaycan Respublikası. **Patent ixtira İ20200106**, 22.12.2020
4. Məhərrəmov A., Qənbərov X.. Sixaliyev N.A., İsrayılova A.A. Tris-(2,4-bis(triklorometil))-1,3,5-triazapentadienato Mn(III) kompleksi antimikrob vasitə kimi. Azərbaycan Respublikası. **Patent ixtira İ20170059**, 22.11.2017
5. Qənbərov X.Q., Abışov I.M., Əbdülhəmidova S.M. *Candida kefir* BD2 maya göbələklərinin xassələrinin bərpası üsulu. Azərbaycan Respublikası. **Patent ixtira İ20130051**, 27.09.2013
6. İsmayılov RC., Məmmədova R.M., Qənbərov X.Q. Antimikrob aktivliyə malik efir yağı kompozisiyası. Azərbaycan Respublikası. **Patent ixtira İ20110039**, 03.05.2011.
7. Cəfərov M.M., Qənbərov X.Q. Südturşusu bakteriyalarını bəcərmək üçün selsktiv qidalı mühit. Azərbaycan Respublikası. **Patent ixtira İ20090081**, 21.04.2009
8. Qənbərov X.Q., Cəfərov M.M. Yüksək antiikrob aktivliyə malik südturşusu bakteriyaları ştami *Lactobacillus pentosum* BDU-KD27. Azərbaycan Respublikası. **Patent ixtira İ20080070**, 28.04.2008
9. Ганбаров Х.Г., Мошкович Ф.С., Мурадов П.З., Костышин С.С., Расулова И.Д. Способ получения гидролитических ферментов. **Авторское Свидетельство СССР, № 133501**, 19.06.92.
10. Ганбаров Х.Г., Мамедьяров М.А., Мурадов П.З. Штамм соматических структур гриба *Bjerkandera adusta* – продуцент ксиланы для поверхностного культивирования. **Авторское Свидетельство СССР, № 1566718**, 22.01.1990.
11. Ганбаров Х.Г., Мурадов П.З. Способ получения белкового кормового продукта. **Авторское Свидетельство СССР, № 1511272**, 01.06.1989.

- 12.** Ганбаров Х.Г., Исмаилов Э.И., Мурадов П.З. Штамм гриба *Bjerkandera adusta* 1- продуцент комплекса целлюлолитических ферментов при поверхностном культивировании. **Авторское Свидетельство СССР, № 1295745**, 08.11.1986
- 13.** Головлева Л.А., Ганбаров Х.Г., Черменский Д.Н. Штамм соматических структур гриба *Panus tigrinus* ВКМР-2475Д, разлагающий лигнин и целлюлозу в растительных отходах. **Авторское Свидетельство СССР, № 1097676**, 15.02.1984
- 14.** Ганбаров Х.Г. и др. Штамм *Pseudomonas aeruginosa* 10 – продуцент 3,4- диметилбензойной кислоты. **Авторское Свидетельство СССР, № 548045**, 28.10.1976.