

List of some scientific articles:

2022

1. Sadvakasova, A.K., Kossalbayev, B.D., Token, A.I., **Zayadan, BK**, ...Chang, J.-S., Allakhverdiev, S.I. Influence of Mo and Fe on Photosynthetic and Nitrogenase Activities of Nitrogen-Fixing Cyanobacteria under Nitrogen Starvation Cells, 2022, 11(5), 904 <https://doi.org/10.1016/j.bej.2022.108640>
2. Meene, A., Herzer, C., Schlüter, R., Zayadan B.K... Urich, T., Mikolasch, A. A Novel Antimicrobial Metabolite Produced by Paenibacillus apiarius Isolated from Brackish Water of Lake Balkhash in Kazakhstan. Microorganisms, 2022, 10(8), 1519
3. Kossalbayev, B.D., Kakimova, A.B., Bolatkhan, K., Zayadan B.K, ...Alwasel, S., Allakhverdiev, S.I. Biohydrogen production by novel cyanobacterial strains isolated from rice paddies in Kazakhstan. International Journal of Hydrogen Energy, 2022, 47(37), стр. 16440–16453
4. Kamshybayeva, G.K., Kossalbayev, B.D., Sadvakasova, A.K., Zayadan B.K, ...Alwasel, S., Allakhverdiev, S.I. Strategies and economic feasibilities in cyanobacterial hydrogen production. International Journal of Hydrogen Energy, 2022
5. Akmukhanova, N.R., Sadvakasova, A.K., Torekhanova, M.M., Zayadan B.K, ...Chang, J.-S., Allakhverdiev, S.I. Feasibility of waste-free use of microalgae in aquaculture. Journal of Applied Phycology, 2022 1.
6. Ardak B. Kakimova, Bekzhan D. Kossalbayev, Kenzhegul Bolatkhan, Bolatkhan K. Zayadan, Sandugash K. Sandybayeva, Asemgul K. Sadvakasova, Suleyman I. Allakhverdiev. Biohydrogen production by novel cyanobacterial strains isolated from rice paddies in Kazakhstan//International Journal of Hydrogen Energy. Q-1, процентиль – 90. <https://doi.org/10.1016/j.ijhydene.2022.03.126>.
7. Akmukhanova, N.R., Zayadan, B.K., Sadvakasova, A.K., ...Todorenko, D.A., Matorin, D.N. Determination of the Promising Microalgal Strain for Bioremediation of the Aquaculture Wastewater Microbiology. Том 91, Выпуск 5, стр. 533 - 54, Q-3, процентиль–32.
- 8 Tattibayeva, Z., Tazhibayeva, S., Kujawski, W., Zayadan, B., Musabekov, K. Peculiarities of adsorption of Cr (VI) ions on the surface of Chlorella vulgaris ZBS1 algae cells. Heliyon, 2022, 8(9), e10468 DOI 10.1016/j.heliyon.2022.e10468
9. Alexander Meene 1,†, Christiane Herzer 1,†, Rabea Schlüter 2 , Bolatkhan Zayadan 3 , Ruediger Pukall 4 , Peter Schumann 4 , Frieder Schauer 1 , Tim Urich 1 and Annett Mikolasch 1,* A Novel Antimicrobial Metabolite Produced by Paenibacillus apiarius Isolated from Brackish Water of Lake Balkhash in Kazakhstan. - Microorganisms 2022, 10, 1519. <https://doi.org/10.3390/microorganisms10081519>
10. Sandybayeva, S. K., Kossalbayev, B. D., Zayadan, B. K., Sadvakasova, A. K., Bolatkhan, K., Zadneprovskaya, E. V., . . . Chang, J. -. (2022). Prospects of cyanobacterial pigment production: Biotechnological potential and optimization strategies. *Biochemical Engineering Journal*, 187 doi:10.1016/j.bej.2022.108640

2021

1. Bauenova, M.O., Sadvakasova, A.K., Mustapayeva, Z.O., ...Alwasel, S., Allakhverdiev, S.I., Potential of microalgae Parachlorella kessleri Bh-2 as bioremediation agent of heavy metals cadmium and chromium. Algal Research, 2021, 59, 102463
2. Sadvakasova, AK, Kossalbayev, BD, Zayadan, BK, Kirbayeva, DK, Alwasel, S, Allakhverdiev, SI. Potential of cyanobacteria in the conversion of wastewater to biofuels. 8 (37), 140. 2021

3. Tattibayeva, Z., Tazhibayeva, S., **Zayadan., B.**, Kujawski, W., ...Musabekov, K., Adilbekova, A. ANALYSIS OF CR(III) IONS ADSORPTION ON THE SURFACE OF ALGAE: IMPLICATIONS FOR THE REMOVAL OF HEAVY METAL IONS FROM WATER. Eastern-European Journal of Enterprise Technologies, 2021, 4(10-112), crp. 14–23

4. B. K. Zayadan, A.B. Kakimova, K. Bolatkhan, S.K. Sandybayeva, B.D. Kosalbayev, D.B. Nurabayeva. Production of Bio-hydrogen from Cyanobacteria: Challenges and Opportunities. International Journal of Biology and Chemistry. – 2021. – Vol. 15. – P.

2020

1. Kenzhegul Bolatkhan, Assem K. Sadvakasova, Bolatkhan K. Zayadan, Ardak B. Kakimova, Fariza K. Sarsekeyeva, Bekzhan D. Kossalbayev, Ayshat M. Bozieva, Saleh Alwasel, Suleyman I. Allakhverdiev. Prospects for the creation of a waste-free technology for wastewater treatment and utilization of carbon dioxide based on cyanobacteria for biodiesel production. Journal of Biotechnology. - 2020. - V. 324. P. 162-170. <https://doi.org/10.1016/j.jbiotec.2020.10.010>

2. Kossalbayev, B.D., Tomo, T., **Zayadan, B.K.**, Sadvakasova, A.K., Bolatkhan, K., Alwasel, S., Allakhverdiev, S.I. Determination of the potential of cyanobacterial strains for hydrogen production. (2020) International Journal of Hydrogen Energy, 45 (4), pp. 2627-2639

<https://doi.org/10.1016/j.ijhydene.2019.11.164>

3. B. K. Zayadan, A. K. Sadvakasova, D. N. Matorin, N. R. Akmukhanova, M. Kokocinski, N. P. Timofeev, Kh. Balouch & M. O. Bauenova Effect of Cadmium Ions on Some Biophysical Parameters and Ultrastructure of Ankistrodesmus sp. B-11 *Russian Journal of Plant Physiology Cells* **67**, pages 845–854 (2020) doi 10.1134/S1021443720040196

4. 1. Sinetova MA, Sidorov RA, Starikov AY, Voronkov AS, Medvedeva AS, Krivova ZV, Pakholkova MS, Bachin DV, Bedbenov VS, Gabrielyan DA, Zayadan BK, Bolatkhan K, Los DA. "Assessment of the Biotechnological Potential of Cyanobacterial and Microalgal Strains from IPPAS Culture Collection." *Applied Biochemistry and Microbiology*, vol. 56, no. 7, 2020, pp. 794-808. *SCOPUS*, www.scopus.com, doi:10.1134/S0003683820070030

5. Asemgul K. Sadvakasova a, Bekzhan D. Kossalbayev a, Bolatkhan K. Zayadan a, Kenzhegul Bolatkhan a, Saleh Alwasel b, Mohammad Mahdi Najafpour c,d, Tatsuya Tomo e,f,**, Suleyman I. Allakhverdiev « Bioprocesses of hydrogen production by cyanobacteria cells and possible ways to increase their productivity». *Renewable and Sustainable Energy Reviews* 133 (2020) 110054 Available online 3 August 2020 1364-0321/© 2020 Elsevier Ltd. <https://doi.org/10.1016/j.rser.2020.110054>

2019

1. Mikolasch, A., Donath, M., Reinhard, A., Herzer, C., Zayadan, B., Urich, T., Schauer, F. Diversity and degradative capabilities of bacteria and fungi isolated from oil-contaminated and hydrocarbon-polluted soils in Kazakhstan. (2019) *Applied Microbiology and Biotechnology*, 103 (17), pp. 7261-7274. <https://doi.org/10.1007/s00253-019-10032-9>

2. Bolatkhan, K., Kossalbayev, B.D., Zayadan, B.K., Tomo, T., Veziroglu, T.N., Allakhverdiev, S.I. Hydrogen production from phototrophic microorganisms: Reality and perspectives. (2019) *International Journal of Hydrogen Energy*, 44 (12), pp. 5799-5811. DOI 10.1016/j.ijhydene.2019.01.092

3. Sadvakasova, A.K., Akmukhanova, N.R., Bolatkhan, K., Zayadan, B.K., Ussebayeva, A.A., Bauenova, M.O., Akhmetkaliyeva, A.E., Allakhverdiev, S.I. Search for new strains of microalgae-producers of lipids from natural sources for biodiesel production. (2019) *International Journal of Hydrogen Energy*, 44 (12), pp. 5844-5853.

4. Sinetova, M.A., Sidorov, R.A., Starikov, A.Y., Voronkov, A.S., Medvedeva, A.S., Krivova, Z.V., Pakholkova, M.S., Bachin, D.V., Bedbenov, V.S., Gabrielyan, D.A., Zayadan, B.K., Bolatkhan, K., Los, D.A. Assessment of biotechnological potential of cyanobacteria and microalgae strains from IPPAS culture collection. (2019) *Biotekhnologiya*, 35 (3), pp. 12-29.

5. Mironov, K.S., Leusenkov, P.A., Ustinova, V.V., Bolatkhan, K., Zayadan, B.K., Kupriyanova, E.V., Shumskaya, M., Sinetova, M.A., Los, D.A. Draft genome sequences of a putative prokaryotic consortium (IPPAS B-1204) consisting of a cyanobacterium (*Leptolyngbya* sp.) and an alphaproteobacterium (*Porphyrobacter* sp.). (2019) *Microbiology Resource Announcements*, 8 (15), статья № e01637-18.

6. B.K. Zayadan, Ussebayeva A.A., Bolatkhan K., Bayzhigitova A.M., Kossalbaev B.D. (2019) Cultivation of cyanobacteria in domestic wastewater for biodiesel production // 4 th International Conference on Bioscience and Biotechnology. 21-22 february, Kuala Lumpur, Malaysia P. 50

7. Kossalbaev B.D., Tomo T., Zayadan B.K., Alwasel S., Bolatkhan K., Allakhverdiev S.I. Determination of the potential of cyanobacterial strains for hydrogen production. *International Journal of Hydrogen Energy* 2019. <https://doi.org/10.1016/j.ijhydene.2019.11.164>

2018

1. B. K. Zayadan, A. Ussebayeva, A. Baizhigitova, A. Sadvakasova, Akmukhanova N.R. (2018) "The study of possibility of using wastewater for cultivation of cyanobacteria-biodiesel" // *Journal of biotechnology* 0168-1656.

2. Zayadan B., N. R. Akmukhanova, A. K. Sadvakasova, K. Bolatkhan, and M. O. Bauenova. (2018) Consortium of Higher Aquatic Plants and Microalgae Designed to Purify Sewage of Heavy Metal Ions // *Russian Journal of Plant Physiology*, Vol. 65, No. 1

3. A.Yu. Starikov, A. Ussebaeva, K. S. Mironov, R. A. Sidorov, B. K. Zayadan, V. S. Bedbenov, M.A. Sinetova, D. A. Los. (2018) Substrate Specificity of Acyl-Lipid Δ^9 -Desaturase from Cyanobacterium sp. IPPAS B-1200, a Cyanobacterium with Unique Fatty Acid Composition 1 // ISSN 1021-4437, *Russian Journal of Plant Physiology*, Vol. 65, No. 4, pp. 490–497. © Pleiades Publishing, Ltd.

4. B.K. Zayadan, K.S. Mironov, M.A. Sinetova, E.V. Kupriyanova, V.V. Ustinova, A.Y. Kozlova, E.M. Messineva, D.A. Gabrielyan, V.S. Bedbenov, D.A. Los. (2018) Draft Genome Sequences of Two Thermotolerant Cyanobacterial Strains Isolated from Hot Springs // *Genome Announcements*, Volume 6, Issue 5. e01548-17

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6. Zayadan, B., Ussebayeva, A., Bolatkhan, K., Akmukhanova, N., Kossalbaev, B., Baizhigitova, A., & Los, D. (2018). Screening of isolated and collection strains of cyanobacteria on productivity for determining their biotechnological potential. [Биотехнологиядағы Потенциалын Анықтау Мақсатында Цианобактериялардың Бөлініп Алынған Және Коллекциялы Қ Штамдарын Өнімділігі Бойынша Сұрыптау; Скрининг выделенных и коллекционных штаммов цианобактерий по продуктивности с целью определения их биотехнологического потенциала] *European Journal of Entomology*, 55(2), 121-130. doi:10.26577/EJE-2018-2-823

7. Matorin, D.N., Timofeev, N.P., Glinushkin, A.P. *et al.* Effect of Fungal Infection with *Bipolaris sorokiniana* on Photosynthetic Light Reactions in Wheat Analyzed by Fluorescence Spectroscopy. *Moscow Univ. Biol.Sci. Bull.* **73**, 203–208 (2018). <https://doi.org/10.3103/S0096392518040065>