

## СПИСОК НАУЧНЫХ ТРУДОВ

соискателя Мұратхана Марата

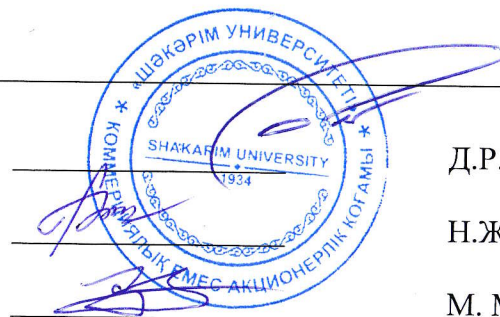
по образовательной программе 8D07202 – «Пищевая безопасность», НАО «Шәкәрім университет»

| №                                                                                                                    | Наименование                                                                                                                                        | Печатный<br>или на<br>правах<br>рукописи | Издательство, журнал, название, номер                                                                                                                      | Объем<br>в п.л.<br>или<br>стр. | Ф.И.О. соавторов                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                                                    | 2                                                                                                                                                   | 3                                        | 4                                                                                                                                                          | 5                              | 6                                                                                                                                                                                                                                                   |
| <b>Международные рецензируемые научные журналы с ненулевым импакт фактором (базы данных Scopus и Web of Science)</b> |                                                                                                                                                     |                                          |                                                                                                                                                            |                                |                                                                                                                                                                                                                                                     |
| 1                                                                                                                    | Development and Optimization of Edible Antimicrobial Films Based on Dry Heat-Modified Starches from Kazakhstan                                      | печат.                                   | FOODS, Volume 14, Issue 11, 2025, ISSN 2304-8158,<br><a href="https://doi.org/10.3390/foods14112001">https://doi.org/10.3390/foods14112001</a>             | 29                             | Zhainagul, Kakimova;<br>Svetlana, Kamanova;<br>Toimbayeva, Dana;<br>Temirova, Indira;<br>Tazhina, Sayagul;<br>Khamitova, Dina; Saule,<br>Saduakhasova;<br>Tultabayeva, Tamara;<br>Bulashev, Berdibek;<br>Ospankulova, Gulnazym                      |
| 2                                                                                                                    | Comparable Analysis of Natural and Modified Starches from Kazakhstan: Physicochemical Properties, Applications, and Insights on Biodegradable Films | печат.                                   | APPLIED SCIENCES-BASEL, Volume 15, Issue 7, 2025, ISSN 2076-3417,<br><a href="https://doi.org/10.3390/app15073938">https://doi.org/10.3390/app15073938</a> | 16                             | Zhainagul, Kakimova;<br>Yermekov, Yernaz;<br>Svetlana, Kamanova;<br>Toimbayeva, Dana;<br>Temirova, Indira;<br>Amirsana, Kiykbay;<br>Khamitova, Dina;<br>Zharykbassov, Yerlan;<br>Sugirbay, Adilet; Saule,<br>Saduakhasova;<br>Ospankulova, Gulnazym |

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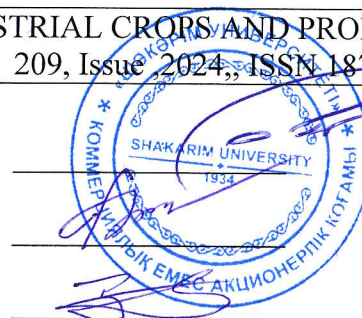
М. Мұратхан

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|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 | Sodium alginate/low methoxyl pectin composite hydrogel beads prepared via gas-shearing technology for enhancing the colon-targeted delivery of probiotics and modulating gut microbiota                                                                  | печат. | INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, Volume 300, Issue ,2025,,<br>ISSN 1879-0003,<br><a href="https://doi.org/10.1016/j.ijbiomac.2025.140375">https://doi.org/10.1016/j.ijbiomac.2025.140375</a> | 18 | Zhang, Fan; Zheng, Xujiao; Ma, Ying; Nan, Wuqiang; Wu, Wenjing; Chu, Ziru; Sun, Xin; Huang, Jihong; Yue, Fangfang; Wang, Xin; Lu, Xin                                                        |
| 4 | Saccharide mapping as an extraordinary method on characterization and identification of plant and fungi polysaccharides: A review                                                                                                                        | печат. | INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, Volume 275, Issue ,2024,,<br>ISSN 1879-0003,<br><a href="https://doi.org/10.1016/j.ijbiomac.2024.133350">https://doi.org/10.1016/j.ijbiomac.2024.133350</a> | 16 | Ma, Yuntian; Zhang, Lichen; Ma, Xiaoyu; Bai, Ke; Tian, Zhuoer; Wang, Zhangyang; Wang, Xin; Lu, Xin; Liu, Manshun                                                                             |
| 5 | pH-responsive PVA/konjac glucomannan/functional liposome terpolymer composites: Spotlight on its structure-performance, functionality, barrier properties, controlled-release behavior, biodegradability, and its intelligent preservation role for food | печат. | FOOD PACKAGING AND SHELF LIFE, Volume 42, Issue ,2024,, ISSN 2214-2894,<br><a href="https://doi.org/10.1016/j.fpsl.2024.101250">https://doi.org/10.1016/j.fpsl.2024.101250</a>                                  | 26 | Liang, Wei; Ge, Xiangzhen; Lin, Qian; Niu, Li; Zhao, Wenqing; Liu, Xinyue; Guo, Shuangfeng; Li, Wenhao                                                                                       |
| 6 | Electron beam pre-irradiation enhances substitution degree, and physicochemical and functional properties of carboxymethyl peanut shell nanocellulose                                                                                                    | печат. | INDUSTRIAL CROPS AND PRODUCTS, Volume 209, Issue ,2024,, ISSN 1872-633X,<br><a href="https://doi.org/10.1016/j.indcrop.2024.118035">https://doi.org/10.1016/j.indcrop.2024.118035</a>                           | 28 | Zhang, Xiuyun; Xi, Changyu; Guo, Shuangfeng; Yan, Mengting; Lu, Yifan; Sun, Zhuangzhuang; Ge, Xiangzhen; Shen, Huishan; Ospankulova, Gulnazym; Kh, Kakimova Zhainagul; Hu, Yayun; Li, Wenhao |
| 7 | pH-responsive liposomes for controlled release of Alpinia galanga essential oil:                                                                                                                                                                         | печат. | INDUSTRIAL CROPS AND PRODUCTS, Volume 209, Issue ,2024,, ISSN 1872-633X,                                                                                                                                        | 25 | Liang, Wei; Ge, Xiangzhen; Lin, Qian;                                                                                                                                                        |

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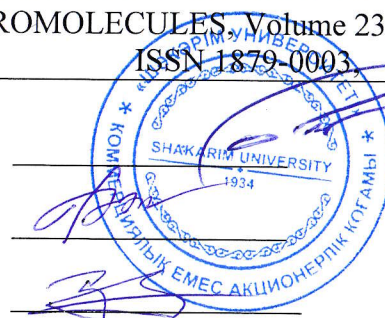
М. Мұратхан

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Investigating characteristics, stability, control release behavior, and functionality                                                                       |        | <a href="https://doi.org/10.1016/j.indcrop.2023.117978">https://doi.org/10.1016/j.indcrop.2023.117978</a>                                                                                                 |    | Zhao, Wenqing; Niu, Li; Li, Wenhao                                                                                                                        |
| 8  | Ternary composite degradable plastics based on Alpinia galanga essential oil Pickering emulsion templates: A potential multifunctional active packaging     | печат. | INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, Volume 257, Issue ,2024,, ISSN 1879-0003, <a href="https://doi.org/10.1016/j.ijbiomac.2023.128580">https://doi.org/10.1016/j.ijbiomac.2023.128580</a> | 22 | Liang, Wei; Ge, Xiangzhen; Lin, Qian; Niu, Li; Zhao, Wenqing; Li, Wenhao                                                                                  |
| 9  | Understanding the improvement of sorghum starch acid hydrolysis modification by E-beam irradiation: A supramolecular structure perspective                  | печат. | FOOD CHEMISTRY, Volume 437, Issue ,2024,, ISSN 1873-7072, <a href="https://doi.org/10.1016/j.foodchem.2023.137820">https://doi.org/10.1016/j.foodchem.2023.137820</a>                                     | 26 | Liang, Wei; Lin, Qian; Zeng, Jie; Gao, Haiyan; Li, Wenhao                                                                                                 |
| 10 | A green versatile packaging based on alginate and anthocyanin via incorporating bacterial cellulose nanocrystal-stabilized camellia oil Pickering emulsions | печат. | INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, Volume 249, Issue ,2023,, ISSN 1879-0003, <a href="https://doi.org/10.1016/j.ijbiomac.2023.126134">https://doi.org/10.1016/j.ijbiomac.2023.126134</a> | 16 | Li, Shiqi; Wang, Xingnan; Luo, Yong; Chen, Zilin; Yue, Tianli; Cai, Rui; Zhao, Zidan; Wang, Zhouli                                                        |
| 11 | Electron beam irradiation modification of ultra-high pressure treated broad bean starch: Improvement of multi-scale structure and functional properties     | печат. | FOOD CHEMISTRY, Volume 427, Issue ,2023,, ISSN 1873-7072, <a href="https://doi.org/10.1016/j.foodchem.2023.136690">https://doi.org/10.1016/j.foodchem.2023.136690</a>                                     | 22 | Zhao, Wenqing; Liang, Wei; Ospankulova, Gulnazym; Kh, Kakimova Zhainagul; Li, Wenhao                                                                      |
| 12 | Comparison Study of DBD Plasma Combined with E-Beam Pre- and Post-treatment on the Structural-Property Improvement of Chinese Yam Starch                    | печат. | FOOD AND BIOPROCESS TECHNOLOGY, Volume 16, Issue 10,2023,2287-2303, ISSN 1935-5149, <a href="https://doi.org/10.1007/s11947-023-03024-1">https://doi.org/10.1007/s11947-023-03024-1</a>                   | 18 | Liang, Wei; Liu, Xinyue; Zheng, Jiayu; Zhao, Wenqing; Zheng, Yue; Ge, Xiangzhen; Shen, Huishan; Ospankulova, Gulnazym; Zhainagul Kh, Kakimova; Li, Wenhao |
| 13 | Multiscale structure-property relationships of oxidized wheat starch prepared assisted with electron beam                                                   | печат. | INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, Volume 235, Issue ,2023,, ISSN 1879-0003, <a href="https://doi.org/10.1016/j.ijbiomac.2023.126134">https://doi.org/10.1016/j.ijbiomac.2023.126134</a> | 16 | Shen, Huishan; Yan, Mengting; Liu, Yili; Liu, Xinyue; Ge, Xiangzhen;                                                                                      |

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|    | irradiation                                                                                                                                                                |        | <a href="https://doi.org/10.1016/j.ijbiomac.2023.123908">https://doi.org/10.1016/j.ijbiomac.2023.123908</a>                                                                           |    | Ospankulova, Gulnazym;<br>Zhang, Guoquan; Li,<br>Wenhao                                                                                                      |
| 14 | Investigating the role and mechanism of water in E-beam modified sweet potato starch: Multi-scale structure, physicochemical properties, and in vitro digestibility        | печат. | FOOD HYDROCOLLOIDS, Volume 137, Issue ,2023,, ISSN 1873-7137,<br><a href="https://doi.org/10.1016/j.foodhyd.2022.108433">https://doi.org/10.1016/j.foodhyd.2022.108433</a>            | 26 | Liang, Wei; Zhao, Wenqing; Liu, Xinyue; Zheng, Jiayu; Sun, Zhuangzhuang; Ge, Xiangzhen; Shen, Huishan; Ospankulova, Gulnazym; Li, Wenhao                     |
| 15 | Electron beam irradiation application for improving the multiscale structure and enhancing physicochemical and digestive properties of acetylated naked barley             | печат. | FOOD CHEMISTRY, Volume 404, Issue ,2023,, ISSN 1873-7072,<br><a href="https://doi.org/10.1016/j.foodchem.2022.134674">https://doi.org/10.1016/j.foodchem.2022.134674</a>              | 22 | Ge, Xiangzhen; Hu, Yayun; Shen, Huishan; Liang, Wei; Sun, Zhuangzhuang; Zhang, Xiuyun; Ospankulova, Gulnazym; Kh, Kakimova Zhainagul; Li, Wenhao             |
| 16 | Understanding how electron beam irradiation doses and frequencies modify the multiscale structure, physicochemical properties, and in vitro digestibility of potato starch | печат. | FOOD RESEARCH INTERNATIONAL, Volume 162, Issue ,2022,, ISSN 1873-7145,<br><a href="https://doi.org/10.1016/j.foodres.2022.111947">https://doi.org/10.1016/j.foodres.2022.111947</a>   | 18 | Liang, Wei; Zhao, Wenqing; Liu, Xinyue; Zheng, Jiayu; Sun, Zhuangzhuang; Ge, Xiangzhen; Shen, Huishan; Ospankulova, Gulnazym; Li, Wenhao                     |
| 17 | Insight into crosslinked chitosan/soy protein isolate /PVA plastics by revealing its structure, physicochemical properties, and biodegradability                           | печат. | INDUSTRIAL CROPS AND PRODUCTS, Volume 187, Issue ,2022,, ISSN 1872-633X,<br><a href="https://doi.org/10.1016/j.indcrop.2022.115548">https://doi.org/10.1016/j.indcrop.2022.115548</a> | 18 | Liang, Wei; Liu, Xinyue; Zheng, Jiayu; Zhao, Wenqing; Su, Chunyan; Ge, Xiangzhen; Shen, Huishan; Zhang, Xiuyun; Lu, Yifan; Ospankulova, Gulnazym; Li, Wenhao |

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| 18                                                                                                                                                           | Electron beam irradiation regulates the structure and functionality of ball-milled corn starch: The related mechanism  | печат. | CARBOHYDRATE POLYMERS, Volume 297, Issue ,2022,, ISSN 1879-1344, <a href="https://doi.org/10.1016/j.carbpol.2022.120016">https://doi.org/10.1016/j.carbpol.2022.120016</a>                         | 16   | Shen, Huishan; Yu, Jiangtao; Bai, Junqing; Ge, Xiangzhen; Liang, Wei; Ospankulova, Gulnazym; Zhang, Guoquan; Li, Wenhao |
| 19                                                                                                                                                           | Recent advances in the application of subcritical water to plant and fungi polysaccharides preparation: A review       | печат. | INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, Volume 308, 2025, ISSN 0141-8130,, <a href="https://doi.org/10.1016/j.ijbiomac.2025.146720">https://doi.org/10.1016/j.ijbiomac.2025.146720</a> | 24   | Ma, Yuntian; Zhong, Yueyao; Wang, Zhenghao; Zhou, Yirun; Liu, Manshun; Lü, Xin; Wang, Xin                               |
| <b>Публикации в изданиях, рекомендованных Комитетом по обеспечению качества в сфере науки и высшего образования Министерства науки и высшего образования</b> |                                                                                                                        |        |                                                                                                                                                                                                    |      |                                                                                                                         |
| 20                                                                                                                                                           | Development and RSM-based Optimization of Biodegradable Edible Films from Electron Beam-Irradiated Starch and Chitosan | Печат. | Вестник университета Шакарима. Технические науки № 2(18), 2025. с. 336-345.                                                                                                                        | 0,56 | Orynbekov, D.R., Kalibekkyzy, Zh., Nurgazezova, A.N., Nurymkhan, G.N., Wu, Gang.                                        |
| 21                                                                                                                                                           | Биоразложение и экотоксикологическая оценка пищевых пленок на основе поликапролактона и модифицированного крахмала     | Печат. | Вестник университета Шакарима. Технические науки № 2(18), 2025. с. 369-376.                                                                                                                        | 0,5  | Orynbekov, D.R., Kalibekkyzy, Zh., Nurgazezova, A.N., Nurymkhan, G.N., Jiang, Hao.                                      |

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