

## Information about the author



### 1. Surname, first name:

Suleimenova Mariya.

### 2. Position, academic degree, title:

head of the department «Chemistry, chemical technology and ecology», candidate of chemical sciences, docent.

### 3. Education:

- Kazakh state university named after S.M. Kirov, faculty of Chemistry, qualification "Chemist-teacher" (diploma MV № 099960 of 26.06.1985);
- candidate of chemical sciences in the specialty 02.00.15 - "Chemical kinetics and catalysis" (HAC of the USSR, Moscow, Institute of organic chemistry named after N.D. Zelinsky, diploma XM № 023240 of 07.08.1991);
- docent (HAC of the RK, diploma in the specialty "Chemistry" № 0002312 of 06.06.1997);
- Professor of ATU (PD diploma № 81 of 30.03.2016).

### 4. Field and directions of research, including participation in scientific projects with a brief description of the results of the study:

*Area and directions of research:*

- chemical technology of organic substances (chemical kinetics and catalysis);
- environmental protection technology (chemical processing of production waste).

Since 1985, scientific work has been carried out on the topic of the Candidate's dissertation "Restoration of aromatic nitro compounds on a skeletal nickel catalyst modified with magnesium". The scientific and practical significance of the studies carried out is confirmed by the author's certificates of the USSR ("Method of obtaining aniline", "Method of obtaining

p-aminodiethylaniline") and the act of introduction into production (chemical plant of fine organic synthesis, Dolgoprudny, Moscow region).

From 1990 to the present, scientific activity has been associated with the development of promising chemical technologies for obtaining intermediate products for the synthesis of vitamins and biologically active substances, multifunctional nanomaterials, the study of environmental safety and biological value of food products, environmental monitoring and the study of factors for the conservation of sustainable development of soil resources in Kazakhstan.

***Participation in research works carried out under grants from the Science Foundation of the Ministry of Science and Higher Education of the RK:***

In the period from 1998 to 2000 Responsible executor of the Republican intersectoral scientific and technical program "Creation and pilot development of technologies for the production of acutely scarce chemical products and reagents from waste and middlings of chemical and metallurgical industries" (supervisor academician of the MIA RK Kulazhanov K.S.). As part of this program, she participated in a scientific project on the topic:

✓ "Development of scientific bases and technology for the synthesis of biologically active substances and their use in the creation of food products for therapeutic and prophylactic purposes".

Main results:

scientifically substantiated innovative technologies for the synthesis of biologically active substances based on vitamins "A" and "E", selected effective catalysts for the selective hydrogenation of intermediates in the synthesis of vitamins "A" and "E", developed practical recommendations for the use of vitamins "A" and "E" in food industry.

In the period from 2015 to 2017 on a grant from the Science Foundation of the Ministry of Education and Science of the Republic of Kazakhstan participated in a scientific project on the topic:

✓ Monitoring and optimization of environmental safety of food products based on innovative nanotechnologies.

Main results:

studies were carried out to create balanced bakery and meat and dairy products based on innovative nanotechnologies; practical recommendations were developed to optimize the environmental safety of basic foodstuffs for the youth of the megalopolis of Almaty, the standards of organizations of developed food products were obtained.

In the period from 2005 to 2008 on a grant from the International science and technology center, she participated in an international project together with the United States on the topic:

✓ "Methods of agromelioration to solve the problems of soil density and its fertility in the production of cotton on irrigated gray soils".

Main results:

an ecological assessment of the current soil-reclamation state of serozem soils in the Makhtaaral district of the South Kazakhstan region was carried out; practical recommendations were

developed on the use of soil agglomeration methods in the production of cotton on irrigated gray soils.

**5. List of the most significant publications (monographs, patents, developed standards, publications in foreign publications included in the database of Clarivate Analytics, Scopus, CQAS HE MSHE RK, RSCI):**

More than 250 scientific and pedagogical works have been published, including 10 copyright certificates for the invention of the USSR and Patents of the Republic of Kazakhstan, more than 20 textbooks and manuals in the field of training technologists in chemical disciplines.

Mariya Suleimenova (<https://orcid.org/0000-0001-5455-6475>)

- ✓ Suleimenova N., Orynbasarova G., Suleimenova M.Sh., Bozhbanov A., Yerekeyeva S. Environmental Monitoring of the Sustainability and Productivity of the Agroecosystem of Oilseeds in South-East Kazakhstan / Journal of Ecological Engineering 2021, 22(7), 89–99. <https://doi.org/10.12911/22998993/139114> ISSN 2299-8993, License CC-BY 4.0;
- ✓ Suleimenova M.Sh., Kulazhanov T.K., Akhmetova S.O. Daribayev Zh.E., Moldagazyeva Zh.Y. Food security and ecological safety of megalopolis: a case study analysis. - Journal of Security and Sustainability Issues. 2018. March. - Volume 7. - Number 3. - Pages 495-511. ISSN 2029-7017 print/ISSN 2029-7025, online, Scopus;
- ✓ Daribaev Zh.E., Suleimenova M.Sh., Shevko V.M., Daribaeva N.G. Thermodynamic simulation of simultaneous extraction of metals during waste processing industry. - Eurasian Chemico-Technological Journal. – Vol. 20. - № 2. – 2018. – p. 107-117;
- ✓ Akhmetova S.O. Suleimenova M.Sh. Quality Management System for Improvement of Quality and Efficiency of Food Production: Case of dairy Products Enterprise. - Entrepreneurship and Sustainability Issues. - Vol. 6. - № 1. – 2018. – p. 289-310;
- ✓ Akhmetova S.O., Suleimenova M.Sh., Rebezov M.B. Mechanism of an improvement of business processes management system for food production: case of meat products enterprise / Entrepreneurship and Sustainability Issues, 2019, 7(2), (December), pages 1015-1035;
- ✓ Таусарова Б.Р., Сулейменова М.Ш., Баймаханов Г.А. Разработка и исследование упаковочной бумаги, модифицированной наночастицами диоксида титана / Ж. Российские нанотехнологии. – 2018. - Т.14. - № 11-12. – С.58-63;
- ✓ Taussarova B.R., Suleimenova M.Sh., Baimakhanov G.A. Development and research of packaging paper modified by titanium dioxide nanoparticles / ISSN 1995-0780, Nanotechnologies in Russia, 2019. - Vol. 14. - № 11–12. - pp. 565–571;
- ✓ Suleimenova M.Sh., Iztayeva A.C. Investigation of anti-corrosion properties of composites based on epoxy resin and zinc nanoparticles / Научный журнал Universum: Химия и Биология. – 2021. - № 4 (82). – С. 93-96;
- ✓ Таусарова Б.Р., Сулейменова М.Ш., Алипбаев А.Н. Синтез экологически чистых наночастиц меди и их применение для модификации целлюлозных текстильных материалов / Ж. Новости науки Казахстана. – Алматы: НЦ ГНТЭ, 2020. - № 2. – С.71-79;

- ✓ Дружинина А.В., Сулейменова М.Ш., Алмабеков О.А., Кусаинова А.К. Синтез полиимидов арилалицического строения / Ж. Химический журнал Казахстана. - Алматы: ИХН им. Е. Бектурова, 2021. - № 2 (74). - С.124-132;
- ✓ Alipbayev A.N., Suleimenova M.SH., Boloskhan S. Preparation magnesium diboride by magniathermal boron oxide based on superconducting properties / Ж. Вестник АТУ. - Алматы: АТУ, 2020. - № 1. – С.68-72;
- ✓ Искендинова А.К., Курманалиев М.К., Сулейменова М.Ш. Сорбция нефтепродуктов природными сорбентами / Ж. Вестник АТУ. - Алматы: АТУ, 2020. - № 3/1 (129). – С.47-52;
- ✓ Сулейменова М.Ш., Изтаева А.С. Эпоксидті олигомерлер негізінде композициялық материалдармен қапталған металдардың коррозияға төзімділігіне мырыш нанобөлшектерінің әсері / Ж. Вестник АТУ. - Алматы: АТУ, 2020. - № 3/1 (129). – С.66-70;
- ✓ Алипбаев А., Сулейменова М., Базилбаев С., Беркинбаева А. Көміртек құрамды сорбенттердің беттік модификациясы / Ж. Промышленность Казахстана. - Алматы: РГП «НЦКПМС РК», 2018. - №1 (102). - С.45-47;
- ✓ Daribaev Zh., Suleimenova M., Kutzhanova A., Daribaeva N. Obtaining construction materials of industrial wastes by layered firing method / Ж. Промышленность Казахстана. – Алматы: НЦ КПМС РК, 2019. - № 4. – С.52-55;
- ✓ Kalimoldina L.M., Sultangazieva G.S., Suleimenova M.Sh. Contamination of soils with heavy metal in the urban area of Almaty / Ж. Почвоведение и агрохимия. – Алматы: КазНИИ ПиА, 2022. - № 3. – С.38-45;
- ✓ Сулейменова М.Ш., Молдагазиева Ж.Ы. Углеродное регулирование в Казахстане / Ж. Известия Национальной Академии НАУК Кыргызской Республики (НАН КР), 2022. - № 5. – С. 188-196;
- ✓ Сулейменова М.Ш., Аязбекова М.А. Фермерский органический напиток «Здоровье» / Патент на полезную модель № 1534 от 08.07.2016 г.;
- ✓ Сулейменова М.Ш., Аязбекова М.А. Органический кисломолочный продукт «Комбинаторика» / Патент на полезную модель № 1535 от 08.07.2016 г.;
- ✓ Сулейменова М.Ш., Рустемова А.Ж., Рубцова А.А. Способ получения зерновых энергетических батончиков / Патент на полезную модель № 2009 от 17.01.2017 г.

***Textbooks and teaching aids:***

- ✓ Сулейменова М.Ш., Алмагамбетова С.Т. Химия. - Алматы: АТУ, 2019;
- ✓ Сулейменова М.Ш., Молдагазиева Ж.Ы. Информационные технологии в экобизнесе. - Алматы: АТУ, 2019;
- ✓ Дарибаев Ж.Е., Сулейменова М.Ш., Құтжанова А.Н., Дарибаева Н.Г. Өндірістік экология. - Алматы: АТУ, 2019;

- ✓ Suleimenova M.Sh., Kazangeldina Zh.B., Sultangaziyeva G.S. Ecology and sustainable development. - Алматы: АТУ, 2018;
- ✓ Akhmetova S.O., Suleimenova M.Sh. Physical Chemistry. - The manual. - Almaty: ATU, 2018;
- ✓ Кулажанов К.С., Таусарова Б.Р., Сулейменова М.Ш. Физическая химия. - Алматы: АТУ, 2016;
- ✓ Құлажанов Қ.С., Сүлейменова М.Ш., Хамзина Ж.Б. Бейорганикалық химияның негіздері. – Алматы: Экономика, 2015;
- ✓ Кулажанов К.С., Сулейменова М.Ш. Неорганическая химия. – Алматы: АВ РК, 2012.

## **6. Scientific internships:**

- ✓ Czech Republic, Prague, Prague university of chemistry and technology, faculty of food and biochemical technology (from 24.04.2015 to 02.05.2015);
- ✓ Italy, Milan, University of Milan, faculty of agriculture and food sciences, department of food, environment and food sciences (from 4.07.2015 to 13.07.2015);
- ✓ Kyrgyz Republic, Bishkek, Research institute of chemical technology at the Kyrgyz state technical university named after I. Razzakov (from 4.08.2015 to 14.08.2015);
- ✓ People's Republic of China, Urumqi, Xinjiang Institute of ecology and geography (from 29.11.2015 to 6.12.2015);
- ✓ Russian Federation, Krasnodar, Kuban state agrarian university, Research institute "Biotechnology and certification of food products" (from 21.12.2016 to 26.12.2016);
- ✓ Russian Federation, Moscow, "FSC of food systems named after V.M. Gorbатов" RAS (from 04.12.2017 to 10.12.2017).

## **7. Achievements in research, pedagogical activities (awards):**

- ✓ holder of the title of MES RK "The Best teacher of the university-2014";
- ✓ badge of the MES RK "Honorary worker of education of the Republic of Kazakhstan" (Certificate No. 265 dated 25.09.2017);
- ✓ "The best teacher of ATU" according to the results of the voting of students in the social network "Vkontakte" on the site "ATU-Line" (2015);
- ✓ Honorary diploma of the Almaty city organization of the trade union of education and science workers "Parasat" (2012, 2016);
- ✓ Letter of thanks of the National testing Center of the MES RK (2010, 2011);
- ✓ Diploma of the Almaty akimat of Almaty (2014);
- ✓ Letter of thanks ATU (2012, 2014);

✓ Honorary diploma of ATU (2017, 2018).

**8. E-mail address, contact details (tel.: work (ext.), cell.):**

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