MAIRA KUSSAINOVA

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EDUCATION:

2000-2005 — **Taraz State Pedagogical Institute**
Bachelor of Biology-Chemistry Science, 0303 “Biology-Chemistry Science”
Grant of the Ministry of Education and Science of the Republic of Kazakhstan

2005-2007 — **Taraz State University named after Dulaty**
Master of Biology Science, 6N0607 « Biology»,
Thesis: Biological characteristics of Anthomophylical fungi of the Phycomycetes class.
Grant of the Ministry of Education and Science of the Republic of Kazakhstan

2007-2011 — **KazNII Soil Science and Agrochemistry named after U.U. Uspanov**
PhD, Soil science 03.00.27
Thesis: The influence of domestic microbiological fertilizer “MERS” on the productivity of winter wheat of the local "Almaly" variety and on the fertility of irrigated serozemic soils of the South-East of Kazakhstan

2012-2013 — **Ondokuz Mayıs University**
Post.Doc., Soil Biology
Thesis: Soil microbiological characteristics and yield response of spring wheat (Triticum Aestivum) affected by inoculation of different microbial strains with wheat straw
Grant of the Scientific and Technological Research Council of Turkey (TÜBİTAK)

From 2020 — **Deutsch-Kasachische Universität (DKU), Natural Resources Institute**
Post.Doc., Water Science and Climate Change

WORK EXPERIENCE:

From 01.02.18 — **Head of the Sustainable Agriculture Center| Kazakh National Agrarian University**

- Development of regulations, methodologies, strategies for the development of the Sustainable Agriculture Center of KazNAU
- Implementation of technologies in the agricultural sector of Kazakhstan
- Development of feasibility analysis and report of the Sustainable Agriculture Center
- Development of scientific projects, project documentation for the development of agriculture
- Organization of training seminars and conferences in areas
- Presentation of projects to the management, stakeholders and sponsors

01.08.07-31.01.18 — **Soil scientist, Kazakh Research Institute of Soil Science & Agricultural Chemistry**

- conducting general and detailed soil surveys
- monitoring the effects of farm, ranch, or forest activities on soil productivity
- giving technical advice used to help plan land management programs

- predicting the effect of land management options on natural resources
- preparing reports describing land and soil characteristics
- advising land managers of capabilities and limitations of soils (e.g., timber sales, watershed rehabilitation projects, transportation planning, soil productivity, military maneuvers, recreation development)
- training other personnel
- preparing technical papers and attending professional soil science meetings
- conducting research in public and private research institutions
- managing soils for crop production, forest products and erosion control management.
- evaluating nutrient and water availability to crops
- managing soils for landscape design, mine reclamation, and site restoration

01.09.05-25.05.07 Lecturer, Biology, Taraz State Pedagogical

- Preparing and delivering lectures to undergraduate or graduate students on topics such as molecular biology, zoology, and botany.
- Planning, evaluate, and revise curricula, course content, and course materials and methods of instruction.
- Preparing materials for laboratory activities and course materials, such as syllabi, homework assignments, and handouts.
- Initiate, facilitate, and moderate classroom discussions.
- Supervise students' laboratory work.
- Keep abreast of developments in the field by reading current literature, talking with colleagues, and participating in professional conferences.

01.08.02-31.05.03 Teacher, Biology and Chemistry, private secondary school "Aziya"

- Preparing lesson plans, tests and assignments,
- Supervising students during investigations and experiments,
- Acting as a field trip chaperone

PROFESSIONAL SKILLS

- Knowledge of agriculture in the Kazakhstan and related organizations and government agencies.
- Management and organizational skills
- Change management
- Data analysis on Power BI
- Remote sensing
- GIS technology
- Development of strategies and methodologies for project development
- Knowledge of programming languages: Python, Tableau, Power BI
- Development of marketing and SMM strategy
- Strategic communications
- Soil spectroscopy
- Field research

LANGUAGES

Russian, Kazakh, English, Tukish

PERSONAL COMPETENCES

- Capacity development and team motivation
- Implementation of innovations
- High involvement
- Analytical, conceptual thinking
- Project and field research management
- Communication skills.
- Computer skills.
- Creative thinking skills.
- Critical thinking skills.

PROJECTS

• National expert in international project: TA-9477 KAZ: National Water Expert - Flood management (Almaty) (51364-001) in Asian Development Bank (ADB) from 08 May 2018 to 20 September 2018.
• Collaborator at the project *Interdependent Dynamics of Food, Energy and Water in Kazakhstan and Mongolia: Connecting LULCC to the Transitional Socioecological Systems*. (2020- 2023) NASA project.
• Member of research team at the project title: "Alternative approaches to mitigation of dust fallout from mine operations: Feasibility study into opportunities of using nature to trap contaminated dust with phytocapture concept", (June 2020-October 31, 2020), SKRI, Tauw, and AAEngineering Group.
• Compiler of the education program curriculum "*Plant Science and Technology*" in collaboration with KazNAU, Kazakhstan and Waginengen University, the Netherlands.
• Head of the USAID project (PEER 9 cycle) on topic: *"The effects of excessive water use and agricultural intensification on Aral Sea shrinkage: socioeconomic-environmental systems (SES) dynamics within the Syr Darya River Basin"* (2021-2023).
• Head of the Kazakhstan project of the Ministry of Education and Science of the Kazakhstan on the topic: *"Assessment of the effectiveness of various land use systems to mitigate climate change by reducing gases and an increase in albedo"* (2021-2023).
• Executor - CLIENT II - Landmanagement project on the theme: "*Reclamation of saline cropland in Central Asia using adapted raw plants and added value of textiles as an alternative to cotton. TP: Methods of harvesting / first processing, as well as quality control system for straw and fibers of Kendyr*"(01.07.2021-30.06.2024).
• Development and coordination of the project "*Assessment of the resource base for the development of the production and technological base of the meat*
production chain" jointly with the Asian Development Bank, the US Department of Agriculture, the Michigan State University
•Organization of conferences and forums: The Central Asian AgTech Summit 2018 (Central Asian AgTech Summit 2018) Almaty, The Central Asian AgTech Summit 2019 (Central Asian AgTech Summit 2019) Almaty, Forum "*Formation of the agro-industrial complex based on knowledge*", November 9, 2018, Almaty, International Agritechnological Summit 2020.
• Development of the project "*Implementation of a geospatial system for monitoring and assessing the degree of soil degradation in the southern and southeastern regions of Kazakhstan*"

PUBLICATIONS

1) Matsui K., Akhapov Y., Kussainova M. (2017). Management of wood resources: A dilemma between conservation and livelihoods in a rural district in the Aral region. Energy for Sustainable Development 41: 121-127, DOI:10.1016/j.esd.2017.08.010
2) Matsui K., Watanabe T., Kussainova M., Funakawa S. (2018). Soil properties that determine the mortality and growth of Haloxylon aphyllum in the Aral region, Kazakhstan. Arid Land Research and Management 33: 37-54, DOI:10.1080/15324982.2018.1496187
3) Starodubtsev V. Kussainova M. (2018). Spatio-temporal development of deltaic landscape in the Kapchagai reservoir and methods of its study. Environment and Soil Resources Conservation: book of proceedings 10th International Soil Science Congress, Almaty.
4) Kussainova M., Pachikin K., Erokhina K. (2016). Distribution, typology and assessment of degraded soils Piedmont Plains Zhetysu Ridge, Kazakhstan. Eurasian Journal of Soil Science 6 (2):178 – 188.
5) Chen, J., Z. Ouyang, R. John, G. M. Henebry, P. Groisman, A. Karnieli, M. Kussainova, A. Amartuvshin, A. Tulobaev, E. T. Isabaevich, C. Crank, L. Tian, A. Kadhim, J. Qi, and G. Gutman. 2020. Social-Ecological Systems across the Asian Drylands Belt (ADB). In Gutman et al. (Eds.), Land-Cover and Land-Use Change in Drylands of Eurasia, Springer 978-3-030- 30741-7, 439140_1_En, (10)
6) Kussainova M., Spaeth K., Zhaparkulova E. (2020) Efficiency of using the rangeland hydrology and erosion model for assessing the degradation of pastures and forage lands in Aydarly, Kazakhstan. Eurasian Journal of Soil Science 9(2) 186-193. DOI: 10.18393/ejss.708898
7) Kussainova M., Durmuş M., Erkoçak A. (2013). Soil dehydrogenase activity of natural macro aggregates in a toposequence of forest soil. Eurasian Journal of Soil Science 2 (1): 69 - 75.
8) Kussainova M., Tauschke M., Saparov A. (2014). The Effect of Applying the Microbiofertiliser "MERS" on the Soil Microbial Community and the Productivity of Winter Wheat Under the Conditions of Southeast Kazakhstan. Novel

Measurement and Assessment Tools for Monitoring and Management of Land and Water Resources in Agricultural Landscapes of Central Asia. Springer, Cham.
9) Mikailsoy F., Kussainova M., Er F. (2018). The Proceedings of the 10th International Soil Science Congress on “Environment and Soil Resources Conservation”.