
Prof. Dr. Ekaterina Georgieva Filcheva at 70 years old



Prof. Dr. Ekaterina Filcheva is a specialist on soil organic matter, founder and long-term leader of the Bulgarian Humic Substances Society (BHSS) - since 1997 till now.

She was born on 08/02/1949 in Sofia, Bulgaria. She graduated secondary school in 1967 Sofia, and 1972 - Sofia University “Kl. Ohridski”, Faculty of Chemistry, Master on Inorganic chemistry. 1973-1976 she was a PhD student and December 1976 defended a thesis for the scientific degree and was conferred a degree of Candidate of Soil Sciences, (Dr.) titled “Complex forming ability of soil organic matter”, N. Poushkarov Institute of Soil Science, Sofia, Bulgaria.

She has spent her career at the Institute of Soil Science “N. Poushkarov”, department Soil Genesis and Classification. Her Habilitations were in December 1989 (Assoc. Prof.) and Prof. – December 2004 with Thesis “Comparative characteristics of soils in Bulgaria in content, composition and stocks of organic matter.

The main topics of her work are using of soil organic matter characteristics for soil diagnostics and classification purposes (Soil organic matter as a characteristic and criteria of soil types and subtypes); soil rich in organic matter (Histosols) and their classification; organic carbon reserves of Bulgarian soils; methods for soil organic matter determination; isolation of humic substances; mineralization and humification processes of waste materials and composts; soil organic matter complexes with heavy metals; soil quality, fertility and carbon sequestration - managing of humus formation; improving soil quality and increasing crop production using lignin, barks and peat composts or humus contained products; soil reclamation - initial humus forming processes of land affected by open mining processes; crop rotation and sewage sludge amendment on soil organic matter content and composition, soil and environmental quality.

During her career Prof. Filcheva performed three fellowships: Agricultural Research Center, Beltsville, Maryland, USA “Influence of enriched with Fe, Mn and Zn biosolids on the uptake of elements by plants”, supervisor Rufus Chaney; EC Fellowship (N 5340), The Macaulay Land Use Research Institute Aberdeen, UK “Effect of pollution with heavy metals on the organic matter transformation”, supervisor Martin Cheshire and NATO Fellowship at the Institute of Soil Classification and Mapping, Larissa, Greece “New approach for maintaining and management of soil humus in sustainable agriculture”, supervisor Christos Tsadilas and participated in more than 15 International projects with Russia, Japan, Belgium, EC projects, USA etc.

Prof. Filcheva was a supervisor of a student from University of Forestry under “Students practice”, Program of Ministry of Education and Science, 2014 and had lectures titled „Soil organic matter” under Project BG051PO001-3.3.06-0042, “Interdisciplinary

preparation and raised of qualification of young scientists in the field of soil science and ecology”, Lectures for the individual preparation of 3 scientists, 2014.

She was an active member and took part in the different Councils: Scientific Council of the Institute of Soil Science “N. Poushkarov”; Expert Council for Soil Science, General Agronomy and Melioration at the National Center for Agricultural Sciences and Agricultural Academy (2007-2014); Specialized Scientific Council for Soil Science, Agro chemistry and General Agronomy at the Highest Testimonial Commission -2007-May 2010. She is a member of Bulgarian Soil Science Society and Union of Soil Science, national Coordinator for Bulgaria of IHSS, President of Bulgarian Humic Substances Society (BHSS) ESSC- till 2015; Bulgarian Historical Agricultural Society.

During her carrier Prof. Filcheva was a board member of several Journals: “Soil science, Agrochemistry and ecology”; Journal of Ecological Science “Ecology and Future”; J. “Balkan Ecology”; Journal “Geosciences Report”; Editorial-in-Chief of World Research Journal of Agricultural Sciences; Assoc. Editor of Journal „Geochemical Exploration” and a reviewer of several International journals. The administrative responsibilities in her long career at the Institute of Soil Science Prof. Filcheva was Head of laboratory “Soil organic matter” in the N. Poushkarov Institute of Soil Science (1986 – 1993); Scientific Secretary of the N. Poushkarov Institute of Soil Science and Head of the section "Scientific potential, Coordination of Scientific activity, and International activities (05.01.2004 – 11.12.2008) and Head of Department “Soil genesis, geography and classification” (10.11. 2011- 02.3. 2015).

She helped in the organization of two Conferences of N. Poushkarov Institute and Soil Science Society with International Participation, 2005 and 2007. She is the main organizers of four Conferences of Bulgarian Humic Substances Society (BHSS) with International Participation: 2000, 2003, 2011, and 2016. The most important event of Bulgarian Humic Substances Society (BHSS) was 19 Meeting of IHSS, 2018 with 178 participants of 30 countries in Albena resort, Bulgaria she was the main responsible scientist and organizer. BHSS hosted this important Meeting of IHSS devoted to Humic Substances and Their contribution to the climate change mitigation.

Prof. Filcheva has 250 publications includes outstanding work on important problems in agriculture and ecology with 2 books in English; Terminology dictionary; 5 chapters in book (2002), 2 chapters in the books: - 2004, 5 - 2005, 3 - 2006, chapter in Proceeding “Sustainable Land Management” (2007), 6 chapters in a book - 2014, Journals, including impact journals, Proceedings in conferences, congresses, 1 dissertation, 1 Habilitation Thesis; and 2 invention Certificates, 242 citations of 95 publications (index h=5). Her monographs published in 2007, 2015 and 2017 presents the most complete database and assessment of the soil organic matter of the main virgin, cultivated soils and under forest for their characteristics and grouping and as criteria of soil fertility of Bulgarian soils, and role of soil organic matter in contaminated with heavy metals soils.

Prof. Filcheva is well known scientist in the field of soil science, especially soil organic matter, soil organic matter characteristics for soil diagnostics and classification purposes - soil organic matter as a characteristic and criteria of soil types and subtypes, soil rich in organic matter (Histosols) and their classification; organic carbon reserves of Bulgarian soils; composts etc. She has detailed fundamental investigations on soil organic matter of Bulgarian soils. Prof. Filcheva studied the changes in quality and quantity of soil

organic matter under different soil tillage system, crop rotations, fertilization of the main soil types of agricultural lands of Bulgaria. She collected own and published data on soil organic matter of Bulgarian soils: arable, under forest and virgin, and using Packet Statistica, she published generalized (statistically) profiles of the main soils of Bulgaria, profile distribution of soil organic carbon, humic and fulvic acids along the profile depth. The main soils of Bulgaria are included in the following groups, according to the soil organic matter composition (Ch/Cf): Izohumic saturated, Izohumic unsaturated, Texture differentiated, Hydromorphic, Shallow and weakly developed soils; Grouping of the main soils of Bulgaria according to soil system stability into three groups: the highest stability to the changes virgin to arable lands have Calcic and Epicalcic Chernozems; Vertisols, Haplic Chernozems are included in the middle group and the Pseudopodzolic soils in the lowest stability.

Some of her publications with co-authors were devoted to the influence of modified zeolite on the carbon sequestration in flooded soils, agricultural practices for soil carbon sequestration, model approach to improve soil quality using organo-zeolite compost, modeling soilforming processes in artificial zeolite soils. Part of her works is focused on the methods of organic carbon determination, humic acids characteristics, characterization of humic system in fertilizer raw materials; quantitative and qualitative characterisation of humic products with spectral parameters; chemical and instrumental methods for investigation of soil organic matter.

Prof. Filcheva has worked with famous world wide scientists as Prof. J. Beck, Prof. Martin Haigh, Prof. Martin Cheshire, Rufus Chaney, Prof. Richard Arnold, Prof. Christos Tsadilas, Prof. Slaveiko Krastanov, Prof. Todor Boyadgiev, Prof. Svetla Gencheva etc.

She participated personally in scientific Congresses and Conferences abroad as 14th and 16th Congresses of Soil Science in Kyoto, Japan and Montpellier, France; 1st Central Asia Congress on Modern Agricultural Techniques and Plant Nutrition, Kyrgyz-Turkish Manas University (KTMU), Bishkek, Kyrgyzstan, 6th Meeting Of IHSS, Bari, Italy and 10th Meeting of IHSS Toulouse, France, 14th Meeting of IHSS in Moscow-Sang Petersburg, 17th Meeting of IHSS Ioannina, Greece Main organizer of 19th Meetings of IHSS, 1st, 3rd and 4th Congresses of Turkish, chapter of IHSS, Turkey, 11 Conference of Polish chapter of IHSS; Conferences Adana, Turkey, Barcelona, Spain, Chalkidiki, Greece, Bucuresti, Romania, Kavala, Greece, 3 Conferences on Carbon Sequestration in USA; 2 papers published in São Pedro, 12th Meetin of IHSS São Paulo, Brazil, 3 papers in the 13th Meeting of the IHSS, Karlsruhe Germany, .and 1 paper in 14th Meeting in Moscow, 3 papers in the 17th Meeting of IHSS, Ioannina, Greece and many Conferences and workshops held in Bulgaria.

Prof. Dr. Ekaterina Filcheva retired from the Institute of Soil Science “N. Poushkarov”, 23 August 2015 after more than 42 years investigations in the same Institute. She has still published papers and books in the scientific journals.

Happy Anniversary Prof. Filcheva

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