

Julijana Cvetkovic, PhD

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UKIM Institute of Agriculture Skopje
Department for plant protection
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Academic qualifications**2002 – Ph.D.**

UKIM Faculty of Natural Sciences, Skopje
Development and modification of methods for heavy metal determination in wine ETAAS

1997 – M. Sc.

UKIM Faculty of Natural Sciences, Skopje
Spectroscopic investigation of manifestation of hydrogen bonding at isomorphous/isostructural crystal hydrates

1981 – B.Sc.

UKIM Faculty of Natural Sciences, Skopje

Training and research experience

2002, September - Yildiz University, Istanbul, Turkey
2004, September, Germany
2010, October, Ohrid, Macedonia
2014, June, Mavrovo, Macedonia

Research interests

Atomic absorption spectrometry,
Development of methods for pre concentration and analyte separation,
Food and beverage analysis,
Enochemistry,

Other professional activities

Determination of physical and chemical properties of plant protection products; Determination of pesticide and heavy metals residues for EUREPGAP certification for fresh products (crops, fruits and vegetables);

Participated in developing a Food safety and food quality control requirements in production facility for crops and vegetables both from suppliers abroad or from internal market, monitoring and control of production process, facilities (production part, warehouse etc), control (qualitative) of final products etc;

Implementation of Food Safety Standards: HACCP, BRC, EUREPGAP

Training for Food Safety Aspects of crops, vegetables and other foodstuff

Participated on the Training for Adaptation of Agricultural Quality Standards and Norms to EU Regulations in Bulgaria, Macedonia and Romania, Implications for Plant Protection and Plant health - organized by InWent, Capacity building International, Germany

Scientific and applicative projects

Participation in scientific projects:

1. Concentration and determination of heavy metals in water matrices, MON, 2000-2003, participant
2. Development of new methods for heavy metals enrichments in water analysis, Turkish-Macedonian Intergovernmental S&T Cooperation, 2002-2003 - participant
3. NATIONAL IMPLEMENTATION PLAN ON REDUCTION & ELIMINATION OF PERSISTANT ORGANIC POLLUTANTS IN THE REPUBLIC OF MACEDONIA, Ministry for environment and physical planning, 2002-2003
4. Bio stimulation influence on the contamination level of heavy metals in plants produced in Veles and environ, Ministry for environment and physical planning, 2004, team leader
5. Development of methods for the determination of chemical species of toxic and essential elements in food and environmental samples, Bulgarian-Macedonian Intergovernmental S&T Cooperation, 2005-2007- participant
6. Approach to the quantification of nutrient load in Drim-Drini catchments. (DRIMPOL), 2005-2006 - participant
7. Distribution variation of heavy metals on soil and plants in contaminated surfaces treated with AGAT 25K, Ministry for environment and physical planning, 2005, team leader
8. Bio stimulation influence on the contamination level of heavy metals and remediation possibility, MON, 2006-2009, team leader
9. Employment of new flotation technics for analytical purposes, MON, 2006-2009, participant
10. Development of analytical methods for trace elements determination in biological samples, MON, 2006-2009, participant
11. Heavy metals in the environment as a consequence of past mining and smelting, Slovenian-Macedonian Intergovernmental S&T Cooperation, Skopje-Ljubljana, 2006-2007 - team leader
12. Interdisciplinary assessment of water resource management in two transboundary lakes in Easter Europe (DRIMON), 2007-2009 - participant
13. Evaluation of the research capacity and development of a strategy for further growth in chemistry in general and in food science in

- particular, FP7, 2008-2010 - participant
14. Analytical methods for fractionation and determination of bioavailable, chemical forms and total contents of toxic elements in environmental samples, MON, 2010-2012, participant
 15. Characterization and determination of the geographical origin of macedonian wine using chemical and stable isotope methods, MON, 2010-2012, team leader
 16. Method development for chemical characterisation of antioxidant and toxic substances in environmental and food samples, MON, 2010-2012, participant
 17. Modern Methods For Control Of Chemical Contaminants And Safety Of Plant Production In The Balkan Region, Bulgarian-Macedonian Intergovernmental S&T Cooperation, 2012-2013, participant
 18. Determination of copper in the vineyard soils in Tikves region, UKIM, 2021-2022, participant
 19. Correlation between micro and macro elements in soil-plant system, MON, 2021-2023, team leader

Scientific publications

- [1] Andreevska, M., Spiridonov, V., Cvetković, J., Dust transport and deposition in Macedonia, during April 2000, *Journal of B.E.N.A.: Environmental Protection and Ecology*, **2**, 704-716 (2001).
- [2] Andreevski, M., Mukaetov, D., Cvetković, J., Trendafilov, A., Cukaliev, O., Poposka, H., Sekuloska, T., Remediation of flotation material of copper mine „Bučim” Radoviš, *Soil protection activities and soil quality monitoring in South Eastern Europe*, Sarajevo, Bosna and Herzegovina, 2011, 50-59.
- [3] Botu, M., Tomic, L., Cvetković, M., Gjamovski, V., *Balkan pomology - Plums*, Alpnar, Sweden 2012.
- [4] Cvetkovic, J., Arpadjan, S., Karadjova, I., Stafilov, T., Determination of chromium in macedonian wine by electrothermal atomic absorption spectrometry, *Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, **4**, 80-84 (2002).
- [5] Cvetkovic, J., Arpadjan, S., Karadjova, I., Stafilov, T., On the problems of the ETAAS determination of arsenic in wine, *Annal of the University of Sofia, Faculty of Chemistry*, **96**, 173-178 (2004).
- [6] Cvetkovic, J., Arpadjan, S., Karadjova, I., Stafilov, T., Determination of cadmium in Macedonian wine by electrothermal atomic absorption spectrometry, *Acta Pharmaceutica*, **56**, (2006).
- [7] Cvetković, J., Arpadjan, S., Karadjova, I., Stafilov, T., Determination of selenium in wine by electrothermal atomic absorption spectrometry, *Bulgarian Chemical Communications*, **34**, 50-57 (2002).
- [8] Cvetković, J., Arpadjan, S., Karadjova, I., Stafilov, T., Determination of thallium in wine by electrothermal atomic absorption spectrometry after extraction preconcentration, *Spectrochimica Acta Part B: Atomic Spectroscopy*, **57**, 1101-1106 (2002).
- [9] Cvetković, J., Arpadjan, S., Karadjova, I., Stafilov, T., Determination of chromium in Macedonian wine by electrothermal atomic absorption spectrometry, *Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, **4**, 80-84 (2002).

- [10] Cvetković, J., Arpadjan, S., Karadjova, I., Stafilov, T., Determination of nickel in wine by electrothermal atomic absorption spectrometry, *Annals of Chemistry, Ovidius University*, **16**, 31-34 (2005).
- [11] Cvetković, J., Jaćimović, R., Stafilov, T., Arpadjan, S., Karadjova, I., Determination of major and trace elements in wine by k_0 -instrumental neutron activation analysis, *Bulletin of the Chemists and Technologists of Macedonia*, **21**, 187-192 (2002).
- [12] Cvetković, J., Petruševski, V., Šoptrajanov, B., Reinvestigation of the water bending region in the spectra of gypsum-like compounds: An FTIR study, *Journal of Molecular Structure*, **408/409**, 463-466 (1997).
- [13] Cvetković, J., Petruševski, V. M., On the placement of hydrogen and helium in the periodic system: a comment, *Chemistry: Bulgarian Journal of Science Education*, **26**, 167-170 (2017).
- [14] Cvetković, J., Popovski, H., Possibilities for kiwi-juice production and its technological property, *Godišen zbornik na Naučno istraživački institut po ošarstvo, Kjustendil, Bugarija*, 39-45 (1993).
- [15] Cvetković, J., Popovski, H., Influence of the ecological conditions on the quality at some peach varieties in R. Macedonia, *Godišen zbornik na Naučno istraživački institut po ošarstvo, Kjustendil, Bugarija*, 56-59 (1994).
- [16] Cvetković, J., Stafilov, T., Mihajlović, D., Nickel and strontium nitrates as modifier for determination of selenium in wine by Zeeman electrothermal atomic absorption spectrometry, *Fresenius' journal of analytical chemistry*, **370**, 1077-1081 (2001).
- [17] Cvetković, M., Tomic, L., Botu, M., Gjamovski, V., *Balkan pomology - Apples*, Alpnar, Sweden 2012.
- [18] Gjamovski, V., Cvetković, J., Stafilov, T., BačevaAndonovska, K., Influence of rootstocks on mineral composition of apple cultivar Granny Smith, *Bulgarian Journal of Agricultural Science*, **23**, (2017).
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- [20] Karadjova, I., Arpadjan, S., Cvetković, J., Stafilov, T., Sensitive method for trace mercury determination in wines by using electrothermal atomic absorption spectrometry, *Microchimica Acta*, **147**, 39-43 (2004).
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- [26] Petrovska, K., Stafilov, T., Šajn, R., Cvetković, J., Spatial distribution of heavy metals in soil samples in Mavrovo Region, *5th Congress of the Ecologists of Macedonia with international participation (Proceedings)*, Ohrid, 2017, 140-145.
- [27] Petruševski, V. M., Cvetković, J., On the 'true position' of hydrogen in the periodic table, *Foundations of Chemistry*, **20**, 251-260 (2018).
- [28] Poposka, H., Mukaetov, D., Cvetković, J., Andreevski, M., Tasevska, T. M., Bandjo Oresković, K., Nedelkovski, D., Gjoljevska, M. R., Copper monitoring in vineyard soils of the Tikvesh region, North Macedonia, *Agro-knowledge Journal*, **23**, 183-197 (2022).
- [29] Popovski, B., Popovski, H., Cvetković, J., Popovska, M., Clone selection of "Oblacinka" sour cherry tree from region Skopje, *Godišen zbornik na Naučno istraživački institut po ošarstvo, Kjustendil, Bugarija* 15-20 (1993).
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- [35] Stafilov, T., Šajn, R., Boev, B., Lepitkova, S., Cvetković, J., Mukaetov, D., Andreevski, M., Distribution of nickel in surface soil in Kavadarci and the environs, *Natural Resources and Technology; University "Goce Delčev", Štip, Macedonia*, **3**, 30-41 (2009).
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- [38] Андреевски, М., Цветковиќ, Ј., Попоска, Х., Мукаетов, Д., Петковски, Д., Василевски, К., Содржина на тешки метали (Fe, Cr и Ni) во ригосолите распространети во околината на металуршкиот комбинат Фени, *III Конгрес на екологите на Македонија со меѓународно учество (Книга на апстракт)*, Струга, 2008, 375-380.
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- [40] Андреевски, М., Цветковиќ, Ј., Мукаетов, Д., Попоска, Х., Содржина на некои тешки метали во ригосоли од Кочанско, *Заштита на растенијата*, **XXII**, 81-86 (2011).
- [41] Андреевски, М., Цветковиќ, Ј., Мукаетов, Д., Попоска, Х., Секулоска, Т., Петковски, Д., Содржина на некои тешки метали во

смолниците од Неготинско, *Заштита на растенијата*, **XX**, 133-136 (2009).

[42] Михајловиќ, И., Беличовски, С., Пејковски, З., Џинлески, Б., Цветковиќ, Ј., Влијание на одредени редуktivни средства врз содржината на резидуалните нитрити во виршлите, *Јубилеен зборник на научни трудови на институт за сточарство*, 309-314 (2002).

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[44] Цветковиќ, Ј., Споредбено испитување на хемиските својства на некои интродуцирани сорти кинеска урма (*Ziziphus jujuba* L) во СР Македонија, *Социјалистичко земјоделство*, **39**, 83-88 (1987).

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[48] Цветковиќ, Ј., Стафилов, Т., Бошков, С., Војноски, Б., Определување хром и никел во вино со електротермичка атомска апсорпциона спектрометрија, *II Македонски симпозиум по лозарство и винарство со меѓународно учество (Зборник на научни трудови)*, Скопје, 2001, 213-219.