SVETOVNI DAN VARNOSTI HRANE
2020
World Food Safety Day 2020

2. KONFERENCA OB SVETOVNEM DNEVU VARNOSTI HRANE 2020

2nd Conference On World Food Safety Day 2020

Ljubljana, 8-6-2020

Državni svet Republike Slovenije

Organizira/organized by

Ministrstvo za kmetijstvo, gozdarstvo in prehrano Republike Slovenije (MKGP), Uprava za varno hrano, veterinarstvo in varstvo rastlin (UVHVVR),
Informacijska točka Evropske agencije za varnost hrane (EFSA)
European Declaration on Food, Technology and Nutrition Network
in
Državni svet Republike Slovenije

Svetovni dan varnosti hrane 2020
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Izbral in uredil
Peter Raspor

2. konferenca ob svetovnem dnevu varnosti hrane 2020

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Varnost, oskrba s hrano in zdravje

Peter Raspor

Številni dogodki dnevno pretresajo svet. Nekateri zamajejo posameznike, nekateri omejene skupnosti, nekateri pa cele sisteme, države, celine in svet.

Od naše prve konference do danes je preteklo leto dni. Nihče ni lani pričakoval tako usodnih pretresov, ki bi zamajali svet in njegovo globalno zdravje. COVID19 je postal poosebljeno zlo, ki ga je mogoče zanetiti v človeški skupnosti in se ta nebrzdano razplamti. Bolj ko je družba dinamična, bolj se razplamteva žar in udar virusov v gibajoči se človeški skupnosti, ki se niti ne zaveda svoje ranljivosti, dokler je ne doleti udarec. Doletelo nas je in zdi se, da na prvem valu nismo doživeli takojšnjega brodoloma. Verjamemo, da smo prvi udarec uspešno odbili in jo odnesli z nekaj ranami, ki se lahko zacelijo in ne uničujejo podstati za jutrišnji dan.

Vse to seveda vpliva tudi na sisteme oskrbe s hrano, od njive do mize. V času, ko so nas zdravstveni in politični veljaki prepričevali, da je kontakt stopnja v okužbo, okužba pa navrže nove okužbe in med ranljivo populacijo tudi smrt, so v nekaterih skupnostih uspeli doseči izolacijo, samoosamitev in ohladitev vseh proizvodnih in delno tudi oskrbovalnih sistemov. Vse to že kaže posledice in jih bo sčasoma naplavilo še več. Med njimi bodo tudi take, o katerih nismo posebej veliko razmišljali, kot družbe, kot države ali kot nadnacionalni interesi, ki dajejo kapitalu absolutno prednost pred vsem, kar je mogoče pomembnejše za človeštvo in za marsikaterega posameznika na tej zemlji, ki jo ogroža naša hiper izkoriščevalska produktivnost, ki ne temelji na pravilu daj-dam, ampak na principu jemljem.

2 konferenca o varnosti hrane vstopa v dogajanje neposredno po tem, ko se vrata v delno normalizacijo delovanja družbe, po izkušnji COVID19, sramežljivo odpirajo. Letošnji dogodek smo planirali v duhu lanskoletnega, ki je učinkovito izzval strokovno javnost zahodnega Balkana. Lanski dogodek je ponudil priliko, da se varnost hrane jasno postavi na noge in pride v hram politike predstavit svoja stališča. Žal je letošnje nadaljevanje zgodbe preprečil korona virus. Veseli smo, da nam ni popolnoma zaprl možnost komunikacije na letošnji Svetovni dan varnosti hrane 2020. Beseda stroke gre v pisani, govorjeni in virtualno prenašani dogodek. Kot vidite, smo se dotaknili samo nekaterih elementov, ki so pomembni in jih je bilo mogoče ubesediti v tako kratkem času in po odločitvi, da bo dogodek tudi dejansko potekal med ljudmi v realnem in ne samo virtualnem svetu.

Mnogo izzivov, ki bi zaslužili pozornost na svetovni dan varnosti hrane, bo ostalo neizpovedanih. Lahko samo upamo, da bomo kot družba in posamezniki dovolj zreli, da bomo dali politikom jasne zahteve, kaj hočemo in česa ne, ko govorimo o varnosti vzdolž živilsko prehranske oskrbovalne verige.

Stroka ima vedno in ne samo v prelomnih časih, kot je današnji, potrebo, da pove svoje videnje. Še posebej je to pomembno v današnji družbi, ko je

objava novic v številne kanale informiranja zelo enostavna in zlorabljana v smislu verodostojnosti informacij. Žal je tako.
Informacije, povezane s hrano, prehranjevanjem in vplivom na zdravje človeka so tako številne, da jih posameznik ne zmore več presejati in ločiti zrnje od plevela. Tako se v verodostojnost informacij vedno manj zaupa in s tem vnaša neprestan nemir v človekovo odločanje. Ko je nemira preveč, se ta hitro prevesi v otopelost in brezbrižnost, ki je še nevarnejša za družbo in zdravje posameznika. Ko človeka ne zanima več, kaj uživa, samo da se nahrani, je za nekatere »sisteme« to ugodna rešitev. Za človeka kot duhovno bitje, ki bi moral uživati v vsakem grižljaju in mu bi ta pomenil zadovoljstvo in vir njegovega telesnega in duševnega zdravja, pa je taka pot usodno zgrešena. Taka pot ne vodi samo civilizacije, pač pa tudi človeštvo v propad.

Tudi takemu razmišljanju je lahko namenjen svetovni dan varnosti hrane. Čeprav ga letošnja predavanja ne odpirajo v vseh naštetih vidikih, ga tudi ne zapirajo. Razmišljujoč, kritičen in ustvarjalen človek si bo tega dne postavil še druga vprašanja in pobude, ki imajo v središču hrano kot dobrino za varnost ter varno in dostojno življenje človeka v sodobni družbi.

Pobudnik in eden od pripravljavcev dogodka »Svetovni dan varnosti hrane 2020«

Prof. dr. Peter Raspor

Satety, Food Security and Health

Peter Raspor

Many events shake the world on a daily basis. Some shake individuals, some limited communities, and some shake entire systems, countries, continents, and the world.

A year has passed from the first conference to the second. No one expected such fatal upheavals last year that would shake the world and its global health. COVID19 has become a personified evil that can be ignited in the human community and it flares up uncontrollably. The more dynamic a society is, the more the added impact of viruses in a moving human community flares up, unaware of its vulnerability until it is hit. It hit us and we don't seem to have experienced an immediate shipwreck on the first wave. We believe we successfully repulsed the first blow and took it away with a few wounds that can heal and not destroy the base for tomorrow.

All of this also affects food supply systems from the plow to the plate. At a time when medical and political leaders have convinced us that contact is a crucial stage in infection, and infection causes new infections and death among vulnerable populations. Some countries have managed to isolate and reduce all production and, in part, supply systems. All of this is already showing consequences, and over time there will be more that we have not given much thought to, as societies, as states, or as supranational interests that give capital an absolute advantage over everything that is important to humanity. This hit the land and our resources by our hyper-exploitative productivity, which is not based on the give-and-take rule, but solely on the principle of taking.

2nd food safety conference starts with activity immediately after COVID19 episode. Although we planned this event in the spirit of last year, which productively challenged the professional public of the Western Balkans to clearly stand on its own two feet and come to the temple of politics to present their views. Unfortunately the Corona virus prevented us from making the event of that dimension. We are glad that Corona did not completely close the possibility of communication on this year's World Food Safety Day 2020. The word of the profession goes into a colorful, spoken and virtually transmitted event. As you can see, we only touched on a few elements that are important and could be articulated in such a short time, after deciding that the event will also actually take place among people in the real life and not just the virtual world.

Many of the challenges that deserve attention on World Food Safety Day will remain untapped, but they will deserve attention, and we can only hope that as a society and individuals we will be mature enough to give politicians clear demands on what we want and do not want, when there is possibility and need to express ourselves in our case of safety along the food supply chain.

The profession always has, not only in crucial times like today, the need to tell its vision. This is especially true in today's society, when publishing news over variety information channels is very simple and very abusive in terms of the credibility of information. Unfortunately, this is so.

The information and data related to food, nutrition, the impact on human health are so numerous that an individual is no longer able to screen and digest them all and separate the grains from the weeds. Thus, the credibility of information is less and less trusted and thus introduces constant negligence into human decision-making process. However, when there is too much unrest, it quickly turns into numbness and indifference, which is even more dangerous for the society and health of the individual. After all, when a person is no longer interested in what is eating, just to feed the body, this is a favorable solution for some "systems". For man as a spiritual being, who should enjoy every bite and it would mean satisfaction and a source of his physical and mental health, such a path is fatally wrong. Such a path leads not only civilization, but also humanity to ruin.

World Food Safety Day can also be dedicated to such thinking. Although this year’s lectures don’t open it up in all of these aspects. Nor should it be closed, and a thoughtful, critical and creative person will ask himself other questions on this day, which focus on food as a good for the safety and safe and dignified life of man in modern society.

The initiator of the event "World Food Safety Day 2020"

Professor Dr. Peter Raspor

Program 2. konference/ 2nd Conference program

10.00–10.30 Dobrodošlica/Welcome address

predsedujoča/chairs: *doc. dr. Elizabeta Mičović in prof. dr. Peter Raspor*

Alojz **Kovšca**
predsednik Državnega sveta Republike Slovenije

dr. Aleksandra **Pivec,**
ministrica za kmetijstvo, gozdarstvo in prehrano, Republika Slovenija

prof. dr. Peter **Raspor,**
predsednik programskega odbora
predstavitev programa 2. konference in namena WFSD 2020/
introduction to the program and purpose of the 2nd conference WFSD 2020

10.30–12.00 Predstavitve/Presentations – I.

predsedujoča/chairs: *Matjaž Guček in prof. dr. Peter Raspor*

10.30–10.45 Izzivi na področju varnosti hrane v povezavi s spremembami dobavnih oziroma oskrbnih verig kot posledico epidemije COVID-19 / *Food safety challenges related to changes in supply chains due to the COVID-19 epidemic*
dr. Jernej Drofenik, v. d. generalnega direktorja, UVHVVR, Ljubljana

10.45–11.00 EFSA, Codex Alimentarius in varnost hrane v izrednih razmerah/ *EFSA, Codex Alimentarius and food safety in emergencies*
dr. Blaža Nahtigal, UVHVVR

11.00–11.15 Analitična in diagnostična orodja za zagotavljanje učinkovite mikrobiološke varnosti živil v izrednih razmerah / *Analytical and diagnostic tools to ensure effective microbiological safety of food in emergency situations*
prof. dr. Darja Barlič Maganja in sod., FVZ-UP, Izola

11.15–11.30 Kako obvarovati predelavo hrane pred incidenti, ki jih prinašajo epidemije?/ *How to protect food processing from incidents caused by epidemics?*
prof. dr. Sonja Smole Možina in sod., UL-BF, Ljubljana

11.30–11.45 Izzivi za usposabljanje o higieni živil v izrednih razmerah / *Challenges for food hygiene training in emergencies*
doc. dr. Mojca Jevšnik in sod., UL- ZF, Ljubljana

12.00–13.00 Odmor za osvežitev/Refreshment break

13.00–14.00 Predstavitve/Presentations – II.

predsedujoča/chairs: *dr. Janez Posedi in prof. dr. Peter Raspor*

13.00–13.15 Vpliv platforme »Eno zdravje/ONE HEALTH« na zagotavljanje varne oskrbe z živili živalskega izvora / *The impact of the ONE HEALTH platform on ensuring the safe supply of food of animal origin*
prof. dr. Olga Rojs Zorman in sod., UL-VF, Ljubljana

13.15–13.30 Izzivi za varnost v samooskrbi skupnosti pri porušenih globalnih prehransko oskrbovalnih verigah / *Challenges for community self-sufficiency security in broken global food supply chains*
prof. dr. Črt Rozman in sod., UM-FKBSV, Maribor

13.30–13.45 Svetovni dan varne hrane 2020 in dopolnitev Ustave s pravico do prehranske varnosti / *World Food Safety Day 2020 and amending the Constitution with the right to food security*
Branko Tomažič, državni svetnik

14.00–15.30 Razprava in zaključki/ *Discussion and Conclusions*

vodita/*chairs*:
prof. dr. Peter Raspor, Branko Tomažič,

priprava zaključkov/conclusions:
prof. dr. Darja Barlič Maganja, doc. dr. Mojca Jevšnik, dr. Blaža Nahtigal in
prof. dr. Peter Raspor

Povzetki prispevkov vabljenih predstavitev/ Summaries of invited lectures

Izzivi na področju varnosti hrane v povezavi s spremembami dobavnih oziroma oskrbnih verig kot posledice epidemije COVID-19

*Jernej Drofenik[1]

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Ključne besede: oskrbne verige, varnost hrane, odpornost družbe

Globalizacija družbe poleg svojih prednosti prinaša tudi tveganja, ki imajo lahko pomembne negativne učinke na oskrbne verige. Hrana je v tem smislu še posebej občutljivo področje, ker ima vsakršen poseg v oskrbno verigo takojšnje neposredne, pa tudi posredne učinke, ki se odražajo tako pri potrošnikih kot pri vključenih nosilcih živilskih dejavnosti. Zato je nujno, da ima družba sposobnost, da hitro prilagodi in vzpostavi potrebne strukture ter zagotovi vire za premagovanje kriznih situacij (FAO, 2020). Odpornost družbe na spremembe, tudi nepričakovane, se mora graditi na multidisciplinarnosti, pri tem pa morata biti odpornost družbe in trajnostni pristop komplementarna elementa (ECOLOGY AND SOCIETY, 2014).

Neposredni učinki v oskrbnih verigah so številni in se na eni strani kažejo kot pomanjkanje nekaterih kategorij živil, na drugi strani pa kot presežki hrane, ki jih zaradi ovir ni mogoče distribuirati po verigi. V kriznih obdobjih se izrazito poveča povpraševanje po osnovnih prehrambnih proizvodih, ker si potrošniki s povečanimi zalogami na ravni gospodinjstev želijo zagotoviti večjo stopnjo prehranske varnosti. Motnje se pojavljajo v primarni proizvodnji ter na vseh naslednjih stopnjah predelave, distribucije in maloprodaje. Posredni učinki motenj v oskrbnih verigah so prav tako mnogoštevilni in različni po vsebini. Tako se v primeru presežkov hrane na eni strani postavlja vprašanje rokov uporabnosti in zagotavljanja ustreznih kapacitet skladiščenja, na drugi strani pa zaradi pomanjkanja surovin lahko pride do sprememb proizvodnih postopkov, načinov preverjanja dobaviteljev, receptur ipd. Pri tem ne smemo pozabiti, da je za zaščito osebja in preprečevanje morebitnega prenosa okužbe treba dodatno prilagajati načine proizvodnih procesov (EC, COVID-19 AND FOOD SAFETY, 2020).
Nenazadnje krizne razmere nudijo primerno »podlago« za pojav morebitnih potvorb ali goljufij (FOOD SAFETY TEHC, 2020).
Kriza, ki jo je povzročila pandemija COVID-19, je pokazala, da je ranljivost oskrbnih verig znatna in da se lahko sistem oskrbe hitro poruši – pojav domino efekta. Dejstvo je, da v večini primerov niso na voljo ustrezni načrti ukrepov za take razmere, ali pa je vprašljiva

njihova uporabnost. Rezervni scenariji v večini primerov niso na voljo ali pa so zgolj teoretični (RESEARCH GATE, 2020).

Kriza trenutne pandemije sicer pojenjuje, vendar se lahko spet pojavi, zato je treba koristno uporabiti izkušnje, ki smo si jih pridobili z njo. Oskrbne verige je treba okrepiti in narediti bolj robustne. Pri tem je posebej pomembno, da poiščemo njihove šibke točke in jih odpravimo. Podobno kot je že uveljavljeno na področju zdravstvenega varstva ljudi in živali, je treba vzpostaviti načrte ukrepov za ravnanje v kriznih razmerah tudi na področju hrane in jih preverjati v obliki simulacijskih vaj. Izboljšanje samooskrbe na področju hrane mora postati imperativ. Nekaterim vitalnim kategorijam živil je treba posvetiti še posebno pozornost, po drugi strani pa vzpostaviti take načine oskrbe s hrano, ki bodo učinkoviti tudi pri ranljivih skupinah potrošnikov.

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Food safety challenges related to changes in supply chains due to the COVID-19 epidemic

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Key words: food supply chains, food safety, resilience of society

Along with its advantages, the globalisation of society brings also risks that may involve significant adverse effects on food supply chains. In this respect, food is a particularly sensitive sector, as any interference with the supply chains may show immediate direct or indirect effects reflecting in consumers and relevant food business operators. For this reason, it is crucial for the society to have the capacity of rapidly adapting to and setting up the structures urgently required and ensuring the resources necessary for overcoming crisis situations (FAO, 2020). Resilience of the society against changes, including unexpected ones, shall be built on multidisciplinarity, where the resilience of the society and the sustainable approach shall be complementary elements (ECOLOGY AND SOCIETY, 2014).

Direct effects on supply chains are multiple and show in shortages of certain food categories on the one hand, and in food surpluses on the other hand which, due to hindrances, cannot be distributed along the supply chains. In the times of crises, the demand for staple food products drastically increases as by stocking themselves up with provisions the consumers are trying to ensure higher food security at household level. Disruptions emerge in primary production and at subsequent stages of processing, distribution and retail. Likewise, the indirect effects of disruptions in supply chains are multiple and diverse in their substance. Thus, in the case of food surpluses on the one hand, there arise issues of food shelf life and of availability of adequate storage capacities and, on the other hand, due to shortages of incoming materials, there may be imminent changes to the production processes, methods of verification of suppliers, recipes, etc. One should keep it in mind here that for the sake of personal protection of personnel and of avoiding the transmission of infection, the methods of production processes require further adaptations (EC, COVID-19 AND FOOD SAFETY, 2020).
And, moreover, crisis situations constitute a convenient "basis" for the emergence of possible tempering or fraudulent practices (FOOD SAFETY TEHC, 2020).

The crisis brought about by the COVID-19 pandemic has shown substantial vulnerability of food supply chains, where the food supply system may easily become disrupted – following the domino effect. Fact remains that in most cases no appropriate action plans for such emergencies are in place or that they are of contestable applicability. In most cases, no spare (worst case) scenarios are at hand, or they exist in theory only (RESEARCH GATE, 2020).

Though the crisis of this pandemic is slowly abating, it may resurface and, for this reason, we should capitalise on any experiences gained from it. Food supply chains need to be strengthened and made more robust. It is imperative that their weaknesses are detected and abolished. As already applicable in public and animal health, crisis management action plans need to be implemented in the food sector and regularly verified as simulation exercises. Improving self-supply in the food sector shall be imperative. Special attention shall be dedicated to certain vital food categories, and food supply methods that are effective also with vulnerable consumer groups shall be set up.

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EFSA, Codex Alimentarius in varnost hrane v izrednih razmerah

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Ključne besede: varnost hrane, EFSA, Codex Alimentarius

Organizacija združenih narodov je 7. junij razglasila za svetovni dan varnosti hrane, ki ga letos obeležujemo drugič. Varnost hrane je nevidna in samoumevna, a vsako leto zaradi uživanja hrane, ki ni varna, zboli vsak deseti zemljan. Varnost hrane je naša skupna odgovornost in vsakdanja skrb ter prednostna naloga na nacionalni in globalni ravni. Na področju zagotavljanja varne hrane imata pomembno vlogo Codex Alimentarius in Evropska agencija za varnost hrane (EFSA). FAO in WHO sta leta 1963 ustanovila mednarodni program standardov za živila in Codex Alimentarius komisijo kot odgovorni organ za implementacijo standardov, smernic in dobrih praks z namenom varovanja zdravja ljudi, varstva interesov potrošnikov in uveljavitve dobrih poslovnih običajev v mednarodni trgovini. Standardi Codex Alimentarius so minimalni standardi, katerim morajo ustrezati živila na svetovnem trgu in služijo kot mednarodno merilo za varnost živil. Vsi standardi temeljijo na znanosti in analizi tveganja (FAO/WHO, 2019).
EFSA, ustanovljena leta 2002 s splošno živilsko zakonodajo, ki vključuje celotno živilsko verigo "od vil do vilic", je odgovorni organ za oceno tveganja in zagotavlja neodvisne znanstvene nasvete politikam EU, ki imajo neposreden ali posreden vpliv na varnost hrane. Temeljne vrednote EFSA so znanstvena odličnost, neodvisnost, preglednost, odprtost in odzivnost. Ob prvi obeležitvi svetovnega dne varnosti hrane 2019 je EFSA objavila poročilo javnomnenjske raziskave Eurobarometer 2019: Varnost hrane v EU. V raziskavi je preverila zanimanje državljanov za varnost hrane ter njihovo ozaveščenost in dojemanje tveganj. Letošnje vsebine so posvečene odgovornosti vseh deležnikov "od vil do vilic", pristopu "Eno zdravje", ki pomembno vpliva na varnost hrane in promociji trajnostnega okolja za varno hrano (EFSA, 2019).
Izredne razmere v času pandemije COVID-19 so izpostavile vprašanja varnosti hrane, prehranske varnosti ter trajnostnih prehranskih sistemov. EFSA je že 8. marca 2020 objavila informacijo, da ni dokazov, da hrana pomeni tveganje za javno zdravje v zvezi s COVID-19, a opozorila na nujnost upoštevanja dobre higienske prakse pri rokovanju z živili (EFSA, 2020).

Codex Alimentarius je objavil posebno spletno stran, kjer so zbrane informacije o COVID-19 in priporočila za potrošnike, nosilce živilske dejavnosti in pristojne organe (FAO/WHO, 2020a). Nosilci živilske dejavnosti morajo upoštevati vse pogoje in aktivnosti, nujne za vzdrževanje ustreznega delovnega okolja in procesov, pri čemer so jim v pomoč Codex smernice (FAO/WHO, 2009). Ukrepi prilagajanja ne smejo vplivati na varnost hrane. Za potrošnike je bistvena informacija, da se virus ne prenaša s hrano, a je izjemno pomembno upoštevanje pravila petih korakov za varno hrano (WHO, 2006).

Svetovni dan varnosti hrane nagovarja vse – pristojne organe, ki tudi v kriznih razmerah obvladujejo tveganja, povezana z varnostjo hrane in prehransko varnostjo; živilsko industrijo, ki zagotavlja skladnost z zahtevami živilske zakonodaje in mednarodnimi standardi; kmetijstvo, ki zagotavlja zadostno oskrbo ob hkratnem zmanjševanju negativnih vplivov na okolje; stroko, ki zagotavlja znanstvene nasvete in potrošnike, ki s svojo izbiro vplivamo na prehranske sisteme (FAO/WHO, 2020b).

Letošnja pandemija predstavlja izziv našim prizadevanjem na področju globalnih prehranskih sistemov, vključno z zagotavljanjem varne hrane, ki je temelj prehranske varnosti in pomembno orodje za javno zdravje in gospodarstvo. O varnosti hrane se ne pogajamo - če ni varna, potem to ni hrana. Svetovni dan varnosti hrane je priložnost za razmislek o prihodnosti varnosti hrane, za spodbujanje ukrepov in krepitev ozaveščenosti nas vseh pri obravnavi lokalnih in globalnih vprašanj, povezanih s hrano, ki je bistvena za naše življenje.

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EFSA, Codex Alimentarius and food safety in emergencies

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Key words: Food Safety, EFSA, Codex Alimentarius

The United Nations Organisation has declared June 7 as the World Food Safety Day, which we are celebrating for the second time this year. Food safety is invisible and self-evident; however, each year, every tenth inhabitant of the Earth falls ill due to consumption of unsafe food. Food safety is our shared responsibility and a daily concern and priority task at national and global level. The Codex Alimentarius and the European Food Safety Authority (EFSA) hold an important role in securing food safety. In 1963, the FAO and WHO established the International Food Standards Programme and the Codex Alimentarius Commission as the body responsible for implementing the standards, guidelines and codes of practice aimed at safeguarding human health, protecting consumer interests and promoting fair practices in international food trade. The Codex Alimentarius standards constitute the minimum standards to be met by foodstuffs in the world market, and provide the international food safety benchmark. All these standards are based on science and risk analysis (FAO/WHO, 2019). Established in 2002 by general food law governing the entire food chain "from farm to fork", the EFSA is the body responsible for risk assessment and provides independent scientific advice to EU policies with direct or indirect impact on food safety. The EFSA fundamental values comprise the scientific excellence, independence, transparency, openness and responsiveness. On the occasion of the first celebration of the World Food Safety Day in 2019, the EFSA published a public survey report, Eurobarometer 2019: Food Safety in the EU. The survey examined the citizens' interest in food safety and their awareness and perception of the risks involved. This year's contents are dedicated to the responsibilities of all the "from farm to fork" stakeholders; the "One Health" approach, which has a significant impact on food safety, and promotion of sustainable environment for food safety (EFSA, 2019). The state of emergency due to the COVID-19 pandemic has exposed the issues of food safety, food security and sustainable food systems. As early as 8 March 2020, the EFSA published information to the effect that there was no evidence of food posing a public health risk regarding COVID-19, warning however that observing good hygiene practices was crucial in handling foodstuffs (EFSA, 2020).

The Codex Alimentarius published a special website with collective information on COVID-19 and recommendations for consumers, food business operators and competent authorities (FAO/WHO, 2020a). Food business operators are required to comply with all the conditions and activities necessary for maintaining the appropriate working environment and processes and, in doing so, they may lean on the Codex guidelines (FAO/WHO, 2009). Any adaptation measures shall not affect food safety. It is essential information for consumers that the virus is not transmitted through food, but it is extremely important to follow the five keys to safer food (WHO, 2006). The World Food Safety Day addresses all - the competent authorities who, even in crisis situations, succeed in managing and controlling any food safety and food security risks; the food industry, which ensures compliance with the food law requirements and international standards; the agriculture, which provides for satisfactory supply along with simultaneous reduction of negative impacts on the environment; the professionals, who provide scientific advice; and us, consumers, who impact the food systems through our choices (FAO/WHO, 2020b).This year's pandemic poses a challenge to our efforts in global food systems, including the provision of food safety, which is a cornerstone of food security and an important tool for public health and the economy. Food safety is non-negotiable - if it is not safe, it is not food. The World Food Safety Day offers an opportunity to reflect on the future of food safety, to promote action, and to raise awareness, as to addressing any local or global issues involving the food, which is of crucial importance for the lives of us all.

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Analitična in diagnostična orodja za zagotavljanje učinkovite mikrobiološke varnosti živil v izrednih razmerah

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Ključne besede: varnost živil, okužbe z živili, diagnostika

Okužbe s hrano predstavljajo pomemben javnozdravstveni problem, saj so v svetovnem merilu pomemben vzrok obolevnosti in umrljivosti. Na pogostost okužb z živili lahko vplivajo izredni, največkrat s podnebnimi spremembami povezani pojavi, kot so temperaturni valovi, požari, suše, poplave (WHO, 2017). Evropska agencija za varnost hrane (EFSA) v poročilu za leto 2018 navaja, da je bilo prijavljenih 5146 izbruhov okužb povezanih z živili, med katerimi jih je bilo največ povzročenih z bakterijami (57%), bakterijskimi toksini (24.2%), virusi (13.5%), ostalimi povzročitelji (4.3%) in paraziti (1%). Vir okužb so bila največkrat živila živalskega izvora, kot sledi: jajca in jajčni izdelki, meso in mesni izdelki, ribe in ribiški proizvodi ter mleko in mlečni izdelki (EFSA, 2019).
Za ugotavljanje nevarnih mikroorganizmov v živilih potrebujejo nosilci živilske dejavnosti hitre teste, s katerimi bodo lahko spremljali prisotnost patogenih bakterij oz. zagotavljali skladnost z zakonodajo, ki določa najvišje ravni določenih patogenov v nekaterih kategorijah živilskih izdelkov (European Commission, 2005). Prav tako potrebujejo hitre teste za preiskave tudi inšpekcijske službe na mejnih prehodih, ki skrbijo za odkrivanje in preprečevanje uvoza kontaminirane hrane, kot to predpisuje za določene kategorije npr. sistem hitrega obveščanja znotraj EU (European Union, 2019).
Kljub temu, da so klasične gojitvene metode dostopnejše, pa je glavna omejitev čas trajanja, saj za rezultate potrebujemo vsaj 2 do 3 dni, lahko pa pride tudi do napačne identifikacije ali/in podcenjenega števila mikroorganizmov. Zato jih moramo običajno potrditi še z biokemičnimi ali molekularnimi testi ali masno spektrometrijo. Zaradi hitro pokvarljive narave in s tem omejenega roka uporabnosti mnogih živil, so rezultati testov, ki trajajo več dni, v mnogih primerih neustrezni (Foddai in Grant, 2020).
Klasične gojitvene metode v zadnjem času nadomeščajo visoko občutljive in specifične alternative. Pri tem ima pomembno vlogo interdisciplinarni pristop področij, kot so biotehnologija, imunologija, molekularna biologija in računalniške tehnologije. Sodobne metode temeljijo na tehnikah molekularne biologije, kot so PCR, RFLP, DNA biočipi, sledijo imunološke tehnike, kot je ELISA, biofizikalna in

biokemična načela se izkoriščajo za izdelavo biosenzorjev (bioluminiscenca, bioanalitični senzorji z uporabo encimov), elektrokemijske metode in pretočna citometrija (Mandal in sod., 2011). Gojenje mikroorganizmov zamenjuje metoda PCR v kombinaciji z barvili za ugotavljanje živosti celic ali metoda PCR s predhodno reverzno transkripcijo za dokazovanje mRNA. Prav tako se razvijajo metode na osnovi fagov (test plakov ali pomnoževanje fagov z lizo celic v kombinaciji s PCR/qPCR, imunskimi ali encimskimi testi za dokazovanje DNA gostitelja, progenih fagov ali znotrajceličnih komponent) (Zhao in sod., 2014).
Nadaljnji razvoj diagnostičnih metod vodi v kvantitativno določanje mikroorganizmov in hkratno odkrivanje več različnih mikroorganizmov ali njihovih toksinov. Nova generacija testov, ki se trenutno razvijajo, daje tudi možnost spremljanja rezultatov v realnem času preko spletnih aplikacij. Metode hitrega odkrivanja mikroorganizmov so pomembne tudi v izrednih razmerah, ko je lahko zaradi naravnih in drugih nesreč ali pa motenj v preskrbi z živili ogrožena varnost živil. V takšnih razmerah je dostopnost do hitrih, specifičnih in občutljivih testov ključnega pomena za javno zdravje in preprečevanje širjenja nalezljivih bolezni.

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Analytical and diagnostic tools to ensure effective microbiological safety of food in emergency situations

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Key words: food safety, microorganisms, diagnostics

The foodborne disease has long represented a considerable burden of public health and continues to challenge health systems worldwide. The frequency of foodborne infections can be affected by extreme situations, most often related to climate change, such as temperature waves, fires, droughts, floods (WHO, 2017). The European Food Safety Authority (EFSA) reported a total of 5,146 food outbreaks in 2018, mostly due to bacteria (57.0%), followed by bacterial toxins, (24.2%), viruses (13.5%), other causative agents (4.3%) and parasites (1.0%). Food vehicles implicated in strong-evidence outbreaks were mostly of animal origin as follows: eggs and egg products, meat and its products, fish and fishery products, milk and dairy products (EFSA, 2019).
In order to identification and monitoring of microbiological agent in the food industry and service there is a need for rapid tests to ensure the compliance with legislation (European Commission 2005) and to prevent unsafe products from reaching the consumer. A reliable and rapid methodology is of crucial meaning also for the border inspection agencies in order to prevent the importation of contaminated food. For example, RASFF is a key tool to ensure the flow of information in EU to enabling swift reaction when risks to public health are detected in the food chain (European Union, 2019).
Despite the fact that the classical culture methods are more accessible, the main limitation is the time frame, as the results require at least 2 to 3 days, and there can also be incorrect identification and / or underestimated number of the target microorganism. Therefore, it is often necessary to use biochemical and molecular tests or mass spectrometry to confirm the results. Due to the perishable nature and, hence, limited shelf-life of many foods, delayed delivery of culture-based results makes such tests inadequate (Foddai and Grant, 2020).
Conventional methods with the mentioned limitations have recently been replaced by various alternative methods with high sensitivity and specificity. An interdisciplinary approach of biotechnology, immunology, molecular biology, automation and computer technology play an important role in enabling the development of more convenient methods in food microbiology. Modern methods are based on molecular biology techniques such as PCR, RFLP, DNA microarrays, followed by

immunological techniques such as ELISA, biophysical and biochemical principles are used to make biosensors (bioluminescence, bioanalytical sensors using enzymes), electrochemical methods and flow cytometry (Mandal et al., 2011). The cultivation of microorganisms is replaced by the PCR method in combination with the use of cell viability dyes or the PCR method with prior reverse transcription for mRNA detection. Phage-based methods are also being developed (plaque assay or phage amplification by cell lysis in combination with PCR/qPCR, immunoassay or enzymatic assay to detect host DNA, progeny phages, or intracellular components) (Zhao et al., 2014).
Further development of diagnostic methods leads to the quantitative determination of microorganisms and the simultaneous detection of different microorganisms or their toxins. The new generation of tests can also provide real-time monitoring of results online via web applications. Methods for the rapid detection of microorganisms are also important in emergency situations, when natural and other disasters or food disruptions may endanger food safety. In such situations, access to rapid, specific and sensitive tests is crucial for public health and prevention of infectious diseases.

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Kako obvarovati predelavo hrane pred incidenti, ki jih prinašajo epidemije?

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Ključne besede: Varnost hrane, COVID19, dostopnost hrane, stabilnost živilskih sistemov, predelava hrane, konzerviranje hrane

Varnost, dostopnost in kakovost hrane močno vpliva na kakovost življenja, proizvodnja hrane pa tudi na stanje okolja in narave. Sodobni potrošnik, državljan in javnost pričakujejo, da bodo deležniki v verigi oskrbe s hrano ob aktivni vlogi države zagotavljali varno in kakovostno hrano in prehransko preskrbljenost (Resolucija, 2020). Vendar so agroživilske proizvodno-oskrbovalne verige izpostavljene številnim biološkim, kemijskim in fizikalnim tveganjem. To je potrdila tudi epidemija Covid-19, ki je v preteklih mesecih z neslutenimi zdravstvenimi, socialnimi in ekonomskimi posledicami globalno prizadela celotno družbo in tudi številne agroživilske proizvodno-oskrbne verige (COVID-19 and Food Safety, 2020), čeprav je SARS-CoV-2 respiratorni virus in hrana le posredni način prenosa okužbe. Zaradi sistemskega zagotavljanja varnosti in kakovosti v agroživilskih sistemih, temelječega na dobrih praksah in sistemu HACCP kot univerzalnem pristopu za obvladovanje tveganj (Raspor in Jevšnik, 2016; Raspor in sod., 2018), bi pričakovali večjo stabilnost proizvodnih sistemov, varnosti in dostopnosti živilskih izdelkov tudi v izrednih razmerah zaradi novega agensa, bodisi bakterijskega, glivnega ali virusnega porekla, tudi v pandemskih razsežnostih (Huff in sod., 2015; Galanakis, 2020). Predstavitev podaja analizo trajnostnega zagotavljanja varnosti, dostopnosti in kakovosti hrane (*Beier in Pillai*, *2007;* Raspor, 2008; Smole Možina, 2018, Klančnik in sod., 2019; Resolucija, 2020) ter izbruhov nalezljivih bolezni zaradi onesnažene hrane, odpoklicev, ipd. (Jones in sod., 2008; EFSA/ECDC, 2019; RASFF, 2019; Food Safety Day, 2019; Soon s sod., 2020). Razkriva glavna tveganja, njihove povzročitelje in pogostnost pojavljanja v glavnih kritičnih stopnjah za biološko onesnaženje (npr. z alergeni, mikroorganizmi itd.) vzdolž proizvodno oskrbovalnih verig svežih ali predelanih živilskih izdelkov (Elkhishin, 2017). V prispevku so nakazane nekatere glavne smernice razvoja postopkov fizikalnega, kemijskega in kombiniranega procesiranja in konzerviranja hrane, razvoja embalažnih materialov in pakiranja hrane, kot del raziskav, katerih ključni pomen in vpetost v nacionalno strategijo poudarja tudi Resolucija o nacionalnem programu o strateških usmeritvah razvoja

slovenskega kmetijstva in živilstva (Resolucija, 2020). Raziskovalce in strokovnjake živilskega sektorja čakajo novi izzivi, ki zahtevajo nove pristope zagotavljanja varne hrane in prehranske preskrbljenosti (Galanakis, 2019; COVID-19 and Food Safety, 2020) in pospešene inovacije, ki bodo v obdobju neizbežne "postkorona" ekonomske krize ponudile nove konkurenčne in obstojnejše živilske izdelke ter funkcionalna živila, obogatena z bioaktivnimi snovmi za podporo imunskega sistema, ter celovitega zdravja in dobrega počutja potrošnika.

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How to protect food processing from incidents caused by epidemics?

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Key words: Food Safety, COVID19, food security, resilience of food production and supply systems, food processing, food preservation

Food safety and quality, and food security have a strong impact on the quality of life, as well as food production strongly influences the quality of the environment. The modern consumer, the citizen and the public expect that stakeholders in the food supply chain, with the active role of the state, will ensure safe and quality food and food supply (Resolucija, 2020). However, food supply chains are regularly exposed to microbial, chemical and physical contamination. This has also been confirmed by the Covid-19 epidemic, which has recently hit global society as a whole, as well as many agri-food production and supply chains, with unforeseen health, social and economic consequences (COVID-19 and Food Safety, 2020), although SARS-CoV-2 is a respiratory virus and food only an indirect way of infection transmission. Due to the systemic assurance of safety and quality in agri-food systems based on good practices and the HACCP system as a universal approach to risk management (Raspor and Jevšnik, 2016; Raspor et al., 2018), we would expect better resilience of production systems, food safety and food security, even in emergencies due to a new agent, whether of bacterial, fungal or viral origin, including in pandemic proportions (Huff in sod., 2015; Galanakis, 2020). The presentation provides an analysis of the sustainable food safety and quality and food security systems (*Beier in Pillai*, *2007;* Raspor, 2008; Smole Možina, 2018, Klančnik in sod., 2019; Resolucija, 2020) and food-borne outbreaks, recalls and similar incidents (Jones in sod., 2008; EFSA/ECDC, 2019; RASFF, 2019; Food Safety Day, 2019; Soon s sod., 2020). It reveals the main risks, their causes and their prevalence in the main critical phases for biological contamination (e.g. with allergens, microorganisms, etc.) along the production supply chains of fresh produce or processed food products (Elkhishin, 2017). The paper outlines some of the main guidelines for the development of physical, chemical and combined food processing and preservation processes, the development of packaging materials and food packaging, as part of research whose key importance and integration into the national strategy is also emphasized by the Resolution about national program of strategic guidelines for the development of Slovenian agriculture and food

(Resolucija, 2020). Researchers and professionals within food sector are faced with many significant challenges to introduce new concepts how to ensure food safety and how to enable food security (Galanakis, 2019; COVID-19 and Food Safety, 2020) and forced innovation that will offer during the inevitable "postcorona" economic crisis new competitive products and functional foods enriched with bioactive substances to support the immune system and overall consumer health and well-being.

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Izzivi za usposabljanje o higieni živil v izrednih razmerah

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Ključne besede: higiena živil, zaposleni, izredne razmere, usposabljanje, metode, COVID-19

V času izrednih razmer je potrebno zaposlene pri delu z živili in vse strokovne delavce, ki prihajajo v stik z živil, na vseh ravneh živilsko-prehransko-oskrbovalne (ŽPO) verige dodatno usposobiti za delo. Zaposleni imajo ključno vlogo pri prenosu patogenih mikroorganizmov, ki se prenašajo z živili. Neustrezno ravnanje zaposlenih z živili je med glavnimi vzroki za pojav bolezni, ki se prenašajo z živili (Cunha in sod., 2015). Vstop premalo izobraženega, nezadostno usposobljenega, nemotiviranega ali malomarnega kadra v delovni proces predstavlja veliko tveganje na področju varnosti živil (Jevšnik in sod., 2008). Problem neurejenosti področja usposabljanja o higieni živil z obstoječim modelom evropske zakonodaje (Uredba, 2004; Jevšnik in sod., 2008) se lahko v času izrednih razmer še poveča. V zadnji širši raziskavi med zaposlenimi v gostinstvu so se pokazala šibka področja v znanju o higieni živil (Jevšnik in sod., 2018), kar še dodatno podpre potrebo po reorganizaciji področja usposabljanja zaposlenih pri delu z živili na nacionalnem, kot tudi na evropskem nivoju. Pri pripravi aktualnih usposabljanj o higieni živil so nosilcem živilske dejavnosti (NŽD) na voljo splošna higienska stališča in v času izrednih razmer tudi aktualna higienska priporočila za obvladovanje SARS-CoV-2. Postavlja se vprašanje: »Ali so v trenutni situaciji NŽD dovolj usposobljeni in kompetentni za posredovanje potrebnih znanj zaposlenim in kako jih le-ti upoštevajo pri vsakodnevnem delu?«. Vsak ŽPO obrat mora imeti izdelan načrt ravnanja z živili v izrednih razmerah.

V primeru širjenja virusa SARS-CoV-2 morajo NŽD oz. njihove odgovorne osebe ponovno preveriti poti prenosov okužbe na ravni zaposlenih, obiskovalcev, sprejema surovin, ravnanja z živili, ravnanja z embalažo in z odpadki različnih vrst, postopke glede uporabe opreme, naprav, pribora in uporabe prevoznih sredstev. Vzpostavljeni morajo biti poostreni higienski ukrepi, da ne pride do širjenja bolezni COVID-19. Namreč okuženi zaposleni lahko poleg kapljičnega prenosa kontaktno onesnažijo različne površine. Nedavna raziskava dokazuje, da omenjeni virus na različnih površinah lahko ostane aktiven od 4 do 72 ur glede na vrsto materiala (van Doremalen in sod., 2020). V času

izrednih razmer se mora usposabljanje zaposlenih pri delu z živili osredotočiti predvsem na dopolnitve že obstoječih delovnih navodil, s poudarkom na obvladovanju zahtev dobre higienske prakse (DHP). Pomembno je, da zaposleni razumejo namen in pomen preventivnih ukrepov. Razumevanje vseh delovnih nalog in opravil je nujno. Biti morajo predmet obravnave v izobraževanju na dovolj pregleden način, da jih razumejo zaposleni na vseh intelektualnih nivojih. Le tako dosežemo potrebno vedenje in znanje kako ustaviti, preprečiti in odpraviti (potencialno) okužbo. Zaposleni morajo dosledno upoštevati tudi dodatne ukrepe, ki zmanjšajo širjenje virusa: razkuževanje rok in uporaba rokavic tam, kjer je to res potrebno, varnostna razdalja med zaposlenimi, uporaba zaščitne maske ter postopki pravilne uporabe delovne obleke.

V praksi je potrebno spremljati doslednost in učinkovitost izvajanja ukrepov v času izrednih razmer in sistematično ponavljati ciljana usposabljanja. Način usposabljanja je zelo pomemben element za prenos znanja v prakso. Bolj kot kognitivna usposabljanja so za prenos znanj v prakso pomembne vedenjske metode (npr. vedenjsko modeliranje, metoda igre in simulacije, študija primerov in igra vlog), ki so usmerjene v praktično usposabljanje (Miri in sod., 2014). Udeležencem usposabljanja dajejo možnost učenja v realnih situacijah, zato so najbolj uporabne za razvoj potrebnih veščin, ki so nujne za doseganje vseh ciljev higiene živil tako v običajnih, kot tudi v izrednih razmerah.

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Challenges of food hygiene training in emergencies

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Key words: food hygiene, food handlers, emergencies, food safety training, methods, COVID19

During emergencies, professional food handlers at all levels of the food-supply chain, must be additionally trained. Food handlers represent a key element in prevention of foodborne pathogen transmission. Because improper food handling is among the main causes of foodborne outbreaks (Cunha et al., 2015). Therefore, entry of insufficiently educated, insufficiently trained, unmotivated and/or negligent staff into the food handling process poses a great risk for food safety (Jevšnik et al., 2008). Absence of detailed guidelines for food hygiene training within the existing legislative model (Regulation, 2004; Jevšnik et al., 2008) may increase the risk for food hygiene training abandonment during emergencies. The latest national survey among food handlers in the hospitality sector revealed several weaknesses in food hygiene knowledge (Jevšnik et al., 2018). The later supports the need for reorganization of food hygiene training model at national as well as at European level. When preparing food hygiene training for SARS-CoV-2 emergency, general hygienic guidelines and special hygienic recommendations for the management of SARS-CoV-2 are available to food business operators (FBO). However, the question is raised: "Are FBO sufficiently trained and competent to provide necessary knowledge to their employees in the current situation and how do they implement them into their work?". Each food plant should therefore have an emergency food management plan in place.
In case of SARS-CoV-2 virus FBO or their responsible employees must re-examine the routes of potential infection transmission at different levels: employees, visitors, raw materials, food handling processes, packaging management, waste management, use of equipment, utensils and transport vehicles. Stricter hygiene measures must be put in place to prevent the spread of COVID-19. Because infected employees can (beside droplet transmission) contaminate various surfaces. Recent study revealed that SARS-CoV-2 can remain active on different surfaces from 4 up to 72 hours depending on the surface material (van Doremalen et al., 2020). During emergencies, the training of food handlers should focus mainly on supplementing already existing instructions, with special emphasis on good hygiene practice (GHP). It is crucial that food handlers understand the purpose and the

importance of these preventative measures. Understanding working tasks is also essential. They (working tasks) must be addressed during the training in a sufficiently tailored manner so that they can be understood by food handlers at different intellectual levels. Only in that way the necessary behaviour and knowledge how to prevent and eliminate (potential) infection can be achieved. Food handlers must also strictly follow additional preventive measures that reduce the spread of the virus: hand disinfection and use of gloves where justified, physical distance between employees, use of protective masks, and proper use of work clothes.

During emergencies it is also necessary to monitor the consistency and effectiveness of preventive measures and to repeat targeted training periodically. The method of training is also a very important element for the transfer of knowledge into the practice. Compared to cognitive training, behavioural methods (e.g., behavioural modelling, game and simulation method, case study and role play) that are focused on practical training are more successful knowledge transfer into the practice (Miri et al., 2014). With the later training participants can learn in real situations which is more useful for development of anticipated skills, which are necessary to achieve all the objectives of food hygiene in both normal and emergency situations.

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Vpliv platforme »Eno zdravje/ONE HEALTH« na zagotavljanje varne oskrbe z živili živalskega izvora

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Ključne besede: eno zdravje, porajajoče bolezni živali, zoonoze, rezistenca

Pristop »Eno zdravje« temelji na povezovanju različnih disciplin in sektorjev pomembnih za ohranjanje zdravja ljudi, živali in okolja. Globalne spremembe v socialno-ekoloških sistemih pomembno prispevajo k hitremu in pogosto globalnemu širjenju nekaterih nedavno eksotičnih bolezni in porajanju novih patogenov. Po podatkih OIE predstavljajo zoonoze okoli 60 odstotkov kužnih bolezni pri ljudeh, kar 75% povzročiteljev bolezni pri ljudeh pa izvira iz živalske populacije. Pojav in hitro širjenje virusa aviarne influence podtipa H5N1 pri prostoživečih pticah in perutnini, okužbe pri sesalcih in ljudeh ter strah pred možnostjo pandemije v letu 2004 je privedlo do nuje globalnega in integriranega pristopa reševanja te in podobnih problematik na svetovni ravni. Zgodnje odkrivanje, poznavanje povzročiteljev bolezni pri domačih in prostoživečih živalih ter njihove ekologije je eden od temeljev za nadzor in zajezitev širjenja bolezni. Na tem sloni tudi ekonomičnost pridelave hrane živalskega izvora. V zadnjih letih smo v evropskem prostoru pri živalih priča intenzivnega širjenja afriške prašičje kuge, stalnim izbruhom aviarne influence (AI) in pojavljanju bolezni, ki so posledica podnebnih sprememb (bolezen modrikastega jezika, vozličasti dermatitis, okužbe z virusom bolezni Zahodnega Nila in Usutu virusom). Pri domačih živalih je mogoče nekatere bolezen zajeziti s preventivnimi cepljenji, v drugih primerih so biovarnostni ukrepi temelječi na poznavanju ekologije povzročitelja zaenkrat edina rešitev.

Ob pojavu AI pri prostoživečih pticah med januarjem in aprilom 2017 je bila okužba z visoko patogenim virusom AI (HPAI) podtipa H5N8 potrjena pri 170 prostoživečih pticah. Do preskoka na domačo perutnino zaradi striktnega nadzora in visoke ozaveščenosti rejcev, ki so izvajali ustrezne biovarnostne ukrepe, ni prišlo. Bolezen modrikastega jezika (BT), ki jo je povzročil serotip 4 (BTV 4), je bila v Sloveniji prvič ugotovljena novembra 2015. V obdobju od avgusta do decembra 2016 pa je bilo skupno ugotovljenih 27 primerov BT. V začetku leta 2017 je bilo uvedeno obvezno cepljenje proti BTV 4.

Tudi povzročitelj sedanje pandemije SARS-CoV-2 izvira najverjetneje iz živali. Raziskave nakazujejo, da je povzročitelj genetsko zelo podoben koronavirusom, ki krožijo v populaciji netopirjev. Okužbe s

SARS-CoV-2 so bile potrjene pri domačih mačkah, tigru in levu s kliničnimi znaki dihalnih obolenj, pri psih ter nedavno na farmah kožuharjev. Rejne živali, kot so prašiči in perutnina, niso dovzetni za okužbo s trenutno krožečim virusom. Vsekakor pa gre za kužno bolezen in o vsakem pojavu okužbe živali je potrebno takoj obvestiti pristojne službe in OIE. Priporočljivo je tudi aktivno spremljanje prisotnosti tega virusa pri živalih s kliničnimi znaki respiratornih obolenj, še posebej pri tistih, ki so v stiku z obolelimi ljudmi.

Med perečimi problemi, ki zahtevajo interdisciplinarni pristop, je obvladovanje alimentarnih zoonoz. Število izbruhov se povečuje zaradi spremenjenih prehranskih trendov ter zaradi globalizacije trgovine z živili.

Rezistenca - pojav večkratno odpornih bakterijskih sevov je pomemben s stališča zdravja živali in hkrati varovanja zdravja ljudi. Zmanjšanje uporabe zdravil pri ekonomskih živalih in njihova preudarna raba v veterinarski medicini je ena od aktualnih dejavnosti naše stroke že desetletje. Vzpodbudno je, da je Slovenija po oceni skupne prodaje veterinarskih zdravil na repu držav, vključenih v projekt ESVAC. Lani je bila v Sloveniji sprejeta petletna Državna strategija »eno zdravje» za obvladovanje odpornosti mikrobov. Na področju veterinarskih zdravil je glavni cilj zmanjšanje uporabe protimikrobnih zdravil, še posebej fluorokinolonov. Dejstvo pa je, da je uporaba protimikrobnih zdravil pri živalih močno odvisno od epidemiološkega stanja, možnosti uporabe preventivnih zaščitnih cepljenj, uspešnosti biovarnostnih ukrepov ter zmanjševanja stresnih dejavnikov. Na zmanjšano odpornost živali vsekakor močno vpliva kakovost krme in pogoji, v katerih živali živijo. Zato je zagotavljanje in dvig dobrobiti živali ena od pomembnih nalog tako veterinarske kot tudi drugih strok.

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The impact of the »ONE HEALTH" platform on ensuring the safe supply of food of animal origin

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Key words: one health, emerging diseases of animals, zoonoses, antimicrobial resistance

The One health approach is based on the integration of various disciplines and sectors of importance for human and animal health as well as the environment. The recent global changes in the social – ecological systems favour the rapid and often global transmission of emerging and re-emerging pathogens. According to the OIE, at least 75% of emerging infectious diseases of humans have an animal origin. The emergence and global spread of avian influenza (AI) virus of subtype H5N1 in wild birds and poultry in 2004, confirmed infections in other animal species and humans as well as a fear that this virus could cause a pandemic in human population, generated an initiative of integrated global approach bringing together different institution and sectors in the search for solutions. Fast detection, knowledge of pathogens in domestic and wild animals and their ecology allows control of disease spread. Prevention from infectious diseases in food producing animals ensures economy of safe food production. In recent years, EU is facing the intensive spread of African swine fever, constant outbreaks of AI and the occurrence of diseases resulting from climate changes (bluetongue, lumpy skin disease, West Nile virus and Usutu virus). Some diseases can be controlled by preventive vaccinations, in others the biosecurity measures are so far the only solution.

During the AI outbreak in Slovenia in 2017, from January to April the infection with the highly pathogenic AI (HPAI), subtype H5N8 was confirmed in 170 wild birds. Due to strict control measurements and the high awareness of breeders who carried out the appropriate biosecurity measures transmission to domestic poultry did not occur. Bluetongue (BT), caused by serotype 4 (BTV 4), was first detected in Slovenia in November 2015. In the period from August to December 2016 there were a total of 27 confirmed cases. In early 2017, a mandatory vaccination against BTV 4 was introduced.

The causative agent SARS-CoV-2 virus of the present pandemic originates most likely from animals. Genetic sequence data reveals that this virus is a close relative of coronaviruses circulating in bat population. Infection with SARS-CoV-2 was confirmed in domestic cats, tigers and a lion with clinical signs of respiratory disorders, in dogs and

recently on mink farms. So far, there is no scientific evidence suggesting susceptibility of pigs and poultry. However, the infection of animals with SARS-CoV-2 meets the criteria of an emerging disease and any infection should be reported to the competent authorities and to the OIE. Testing is recommended for animals showing respiratory clinical signs, particularly if they are in close contacts with humans suspected or confirmed to be infected with SARS-CoV-2.

Among the most important issues that require interdisciplinary approach are foodborne infections. The number of outbreaks is rising because of altered food consumption trends and food market globalization. The emergence of multiple resistant bacterial strains is important from human and animal perspective. Reducing the use of antimicrobials in food producing animals and their prudent use is one of the activities of our profession for a decade. The results of ESVAC project showed that Slovenia is one of the countries with the lowest amount of antibiotics used in animals. In 2019 national "one health" strategy for the management of resistance was adopted in Slovenia. The main objective in veterinary profession is to reduce the use of antimicrobials, especially fluoroquinolones. However, it should be noted that the need for the antibiotic treatment of animals depends on several factors including epidemiological situation, effectiveness of vaccination and other biosecurity measurements, as well as exposure of animals to different stress factors, such as quality of food and rearing conditions. Therefore, concern for animal welfare and its improvement must be the duty of all those who deal with animals.

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Izzivi za varnost v samooskrbi skupnosti pri porušenih globalnih prehransko oskrbovalnih verigah

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Ključne besede:
Hrana/živila, kriza, prehranska varnost, samooskrba, proizvodnja, kmetijska politika, izredne razmere, COVID 19

V času kriznih razmer kot so vojne, epidemije in podobni izredni dogodki, katerih trajanje je različno, lahko pride do motenj pri prehranski varnost, če jo razumemo kot sposobnost neke skupnosti, da svojim pripadnikom zagotavlja v vsakem trenutku fizični in ekonomski dostop do zadostnih količin , varne in hranljive hrane, ki ustreza njihovim prehranskim potrebam in preferencam. V času druge svetovne vojne se je s tem problemom soočila nevtralna Švica in z aktiviranjem vseh razpoložljivih površin primernih za pridelavo hrane in Programom proizvodnje hrane, ki ga je že leta 1939 sprejel švicarski parlament uspela dvigniti stopnjo samooskrbe nad 80%. Kljub temu pa je bilo racioniranje hrane potrebno vse do leta 1948 (http://history-switzerland.geschichte-schweiz.ch/economic-dependence-rationing.html). Takrat je postalo tudi bolj ali manj jasno, da je urejena proizvodnja in visoka stopnja samooskrbe z osnovnimi prehranskimi produkti v nekriznem času osnova za prehransko varnost v času kriznih razmer. Slovenija je na tem področju po letu 1991 padla na izpitu, več kot 100% samooskrbo dosega le pri nekaterih produktih, drugod pa potenciala ne izkoriščamo (SURS, 2020). Najslabše je stanje pri zelenjavi, pa tudi pri nekaterih drugih produktih v celoti ne izkoriščamo potenciala, ki ga imamo predvsem na namakanih področjih. Elementi za izboljšanje zajemajo ureditev proizvodnega vidika: uvedba namakanja kjer je to možno. Namakanje namreč lahko bistveno vpliva na dvig pridelkov. Študija Mikluša iz 1992 npr. kaže, da je lahko povečanje pridelka od 17% pri pšenici do 56 % pri sladkorni pesi. Postopke uvedbe namakalnih sistemov je zato treba čimbolj poenostaviti, potrebne so pa tudi investicije v infrastrukturo (akumulacije), kjer so velike možnosti predvsem ob izgradnji hidro elektrarn. The procedures for the introduction of irrigation systems should therefore be simplified as much as possible, and investments in infrastructure (reservoirs) are also needed, where there are great possibilities, especially during the construction of hydroelectric power plants. Potrebno je minimiranje ostalih proizvodnih tveganj, ki so v veliki meri vezane na klimatske spremembe, katere rezultirajo v pogostejšem pojavu ujm kot so suša (Sušnik in Gregorič, 2017),

pozeba in toča (Rozman, 2018), implementacija sodobnih tehnologij ter skrb za tla tako glede preprečevanja erozije kot tudi ohranjanja organske snovi v tleh (Rozman s sodelavci, 2019) kot tudi ureditev agrarno ekonomsko političnega vidika predvsem v smislu boljšega poslovnega organiziranja kot tudi ukrepov zemljiške politike (komasacije). Ključne so investicije tako v primarno proizvodnjo (rastlinjaki, trajni nasadi) in v predelovalne kapacitete. Administrativne postopke pri pridobivanju podpor je v veliki meri potrebno poenostaviti, hkrati s tem pa spremeniti kriterije in povečati število upravičencev. Pridelovalci surovine bi si morali prizadevati za povezovanje in vstop v lastniške strukture trgovskega sistema za zagotavljanje boljše ekonomske učinkovitosti. V luči doseganja samooskrbe je pomemben tudi izboljšanje izobrazbene strukture na podeželju, zato je potrebna podpora države razvoju kmetijskih izobraževalnih programov na vseh stopnjah izobraževanja. V času epidemije COVID19 motenj s preskrbo sicer ni bilo, je pa zaradi omejitvenih prišlo do motenj pri zagotavljanju tuje delovne sile. Poudariti tudi moramo, da je pogoj za nemoteno proizvodnjo hrane v kriznem času tudi razpoložljivost inputov, predvsem energentov. Potreben je tudi premislek o ustreznosti Skupne kmetijske politike v smislu doseganja prehranske varnosti posameznih članic.

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Challenges for community self-sufficiency security in broken global food supply chains

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Key words:
Food / food, crisis, food security, self - sufficiency, production, agricultural policy, stateof emergency, COVID19

In times of crisis, such as wars, epidemics and similar emergencies, food security can be disrupted. Food security is defined as the ability of a community to provide its members with physical and economic access to sufficient quantities of safe and nutritious food that meets their nutritional needs and preferences at all times. During the Second World War, neutral Switzerland faced this problem and managed to raise the level of self-sufficiency above 80% by activating all available areas suitable for food production and the Food Production Program adopted by the Swiss Parliament in 1939. Nevertheless, food rationing was necessary until 1948 http://history-switzerland.geschichte-schweiz.ch/economic-dependence-rationing.html). At that time, it also became more or less clear that regulated production and a high level of self-sufficiency of basic food products in non-crisis times was the basis for food security in times of crisis. Slovenia has been failing in this area since 1991, it achieves more than 100% self-sufficiency only with some products and the potential is not fully used especially in case of vegetables (SURS, 2020). We provide elements for improving the situation. These include the regulation of the production aspect. Introduction of irrigation where possible is one of the most important features. Climate changes result in more common occurrence of droughts (Sušnik and Gregorič, 2017; Rozman et al., 2019). According to Mikluš (1992) irrigation can increase yields from 17 (winter wheat) to 56 % (sugar beet). Minimization of other production risks such as spring frosts and hailstone, is also essential (Rozman, 2018). In this light, important part could be played by implementation of modern technologies and soil conservation (Rozman et al., 2018) as well as the regulation of the agrarian economic and political aspects mainly in terms of better business organization and land policy measures. Investments in both primary production (greenhouses, permanent crops) and processing capacities are crucial. Administrative procedures for obtaining support need to be greatly simplified, while at the same time changing the criteria and increasing the number of beneficiaries. Raw material producers should strive to integrate and enter into the ownership

structures of the trading system to ensure better economic efficiency. In the light of achieving self-sufficiency, it is also important to improve the educational structure in rural areas, so the state needs to support the development of agricultural education programs at all levels of education.During the COVID19 epidemic there were no shortages of basic food products availability, however there were limitations with respect to introduction of foreign seasonal labour. We have to emphasize that supply of inputs especially in the field of energy for food production during emergencies is essential. Consideration is also needed on the adequacy of the Common Agricultural Policy in terms of achieving the food security of member states.

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Svetovni dan varne hrane 2020 in dopolnitev ustave s pravico do prehranske varnosti

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Ključne besede: Ustava Republike Slovenije, pravica do prehranske varnosti, samooskrba

Prehranska varnost velja za ključno strateško dobrino, brez katere si je nemogoče predstavljati obstoj sodobnega človeka. To toliko bolj velja zaradi nenehno naraščajočega števila prebivalcev. Po opredelitvi Organizacije za prehrano in kmetijstvo govorimo o prehranski varnosti takrat, ko imajo vsi ljudje ob vsakem trenutku dostop do zadostne količine varne hrane, z zadostnimi hranilnimi vrednostmi za vzdrževanje njihovega zdravega in aktivnega življenja (Napoli M, FIMI, 2010/2011).
Slovenija pri tem velja za eno izmed redkih držav sveta, ki za zmerno blagostanje in varno preživetje vseh njenih prebivalcev v 21. stoletju razpolaga s ključnimi strateškimi okoljskimi dobrinami. Ključna je predvsem samooskrba. Ko govorimo o samooskrbi je pogosto rabljen izraz, ki velikokrat ostaja nedefiniran. Pojem na splošno pomeni, v kolikšni meri lahko država zagotovi svoje potrebe po hrani iz lastne domače proizvodnje (Food Policy, 2017).
Slovenija trenutno z domačo pridelavo ne pokriva vseh svojih potreb po kmetijsko-živilskih proizvodih, zato je zagotavljanje hrane prebivalstvu s trajnostnim izkoriščanjem domačih proizvodnih virov ključnega pomena. Zgled bi morale biti države kot so Avstrija, Švedska, Švica, Nizozemska, Norveška, Singapur, Irska saj je v teh državah po podatkih globalnega indeksa zanesljive preskrba s hrano višja od 80 odstotkov (Global food Security Index, 2019).
Ponovno doseganje varne stopnje prehranske samooskrbe, pridelava lokalno pridelane kakovostne in zdrave hrane je nedvomno najbolj zahtevna strateška trajnostna razvojna naloga na ravni države. Ključna predpogoja za zagotavljanje prehranske varnosti sta tako ohranjanje naravne rodovitnosti prsti in razmeroma velika kmetijska zemljišča. Za varno prehransko oskrbo bi v Sloveniji, glede na geografsko raznolikost in klimatske razmere na prebivalca potrebovali najmanj 3000 m2 kmetijskih zemljišč. Po zadnjih podatkih iz leta 2009 pa je le dobrih 2200m2 na prebivalca, s čimer se Slovenija uvršča na sam rep lestvice držav članic EU (Plut 2012).
Kljub temu, da se je samooskrba v preteklih desetletjih zniževala, leta 1970 je znašala 70 odstotkov medtem ko je bila leta 2008 le še 50 odstotkov, je očitno, da z domačo pridelavo ne pokrivamo vseh svojih

potreb po kmetijsko-živilskih proizvodih, je vključitev pravice do prehranske varnosti v Ustavo nujna, saj pomanjkanje prehranske oskrbe resno ogroža pravico posameznika do prehranske varnosti. Z dopolnitvijo Ustave s pravico do prehranske varnosti kot univerzalno pravico bi se zagotovil univerzalen dostop do zdrave hrane vsem prebivalcem. Pravica do prehranske varnosti tako zajema širok nabor pravic. Kljub mnenju nekaterih, da mora Ustava urejati le temeljne določbe o človekovih pravicah in temeljnih svoboščinah, pa je, pravica do prehranske varnosti tako pomembna, da bi morala biti ustavnopravno varovana.

Sloveniji bi morala slediti Švici, ki je kot prva država in trenutno tudi edina v Evropi, na podlagi izvedenega referenduma iz leta 2017 v ustavo dodala novi člen, ki ureja prehransko varnost, na način, da določa državi obveznost zagotoviti ustrezne pogoje za preskrbo prebivalstva s hrano, ustvarjanje pogojev za za kmetijsko proizvodnjo in pridelavo hrane na način, ki je prilagojen lokalnim razmeram (Swiss Constitution, 2020).

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World Food Safety Day 2020 and amending the Constitution with the right to food security

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Food security is considered a key strategic asset, without which it is impossible to imagine the existence of modern man. This is all the more true due to the ever-growing population. According to the definition of the Food and Agriculture Organization, food security is granted when all people have access to a sufficient amount of safe food at all times, with sufficient nutritional values to maintain their healthy and active life (Napoli M, FIMI, 2010/2011).

Slovenia is considered to be one of the few countries in the world that has key strategic environmental assets for the moderate well-being and safe survival of all its inhabitants in the 21st century. Self-sufficiency in food is a key. Self-sufficiency is a commonly used term that often remains undefined (Food Policy, 2017). What a term in general means is the ability of a country to meet its need for food from its own production.

Slovenia does not cover all its needs for agri-food products with domestic production, so providing food to the population through the sustainable use of domestic production resources is of a key importance. Countries such as Austria, Sweden, Switzerland, the Netherlands, Norway, Singapore and Ireland are a great example, as according to the Global Food Security Index, their food security is above 80 percent (Global food Security Index, 2019).

Achieving a safe level of food self-sufficiency, the production of locally produced quality and healthy food is undoubtedly the most demanding strategic sustainable development task at the state level. The key preconditions for ensuring food security are preservation of the natural fertility of the soil and relatively large agricultural areas. Given the geographical diversity and climatic conditions of Slovenia, at least 3,000 m2 agricultural areas per capita would be required for food security. According to the latest data from 2009, Slovenia has only around 2200m2 agricultural areas per capita at the moment, which puts Slovenia at the very bottom of the scale of EU member states (Plut 2012).

Despite the fact that self-sufficiency has been declining in recent decades, reaching 70 percent in 1970 and only 50 percent in 2008, it is clear that domestic production does not cover all our needs for

agri-food products, therefore the inclusion of the article determining the right to food security in the Constitution of the Republic of Slovenia is urgent. The lack of food security sufficiency seriously endangers the right of the individual to food security. Amending the Constitution with the right to food security as a universal right would ensure universal access to healthy food for all residents. The right to food security thus encompasses a wide range of rights. Despite the opinion of some that the Constitution should only regulate fundamental provisions on human rights and fundamental freedoms, the right to food security is so important that it should be constitutionally protected.

Slovenia should follow the Swiss example. Switzerland was the first country and currently the only one in Europe to add a new article regulating food security into their Constitution on the basis of a referendum in 2017 in such a way that it imposes an obligation to provide adequate conditions for supply of food, creating conditionsfor agricultural production and food production in a way that is adapted to local conditions (Swiss Constitution, 2020).

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Življenjepis: Rojena 1961 v Trbovljah, 1980–1987 – študij na FNT VTO Farmacija UL. Leta 1987 se je zaposlila kot mlada raziskovalka na Inštitutu Jožef Stefan. Na Biotehniški fakulteti UL je leta 1991 zaključila magisterij, leta 1996 pa doktorat iz področja mikrobioloških znanosti. Leta 1995 se je zaposlila na Veterinarski fakulteti in bila vodja laboratorija za molekularno virologijo do leta 2007. V letu 1997 je bila na Državnem inštitutu za živalske virusne bolezni Tuebingen, Nemčija. Od leta 2007 je dejavna na UP Fakulteti za vede o zdravju na pedagoških in vodilnih mestih. V letih 2010–11 je vodila Center za laboratorijsko dejavnost na Inštitutu za varovanje zdravja (IVZ). **Pedagoško delo:** Redna profesorica in znanstvena svetnica za področje mikrobiologije, predavateljica in nosilka predmetov Mikrobiologija, Farmakologija, Nutracevtika in Higiena in obvladovanje okužb v zdravstvu na študijskih programih Zdravstvena nega in Prehransko svetovanje – Dietetika. **Raziskovanje:** Raziskave s področja virusnih povzročiteljev bolezni pri ljudeh in živalih, molekularna diagnostika in tipizacija virusov in bakterij. Od leta 2014 je vodja programske skupine »Varstvena biologija od molekul do ekosistema«. Vodila je raziskovalne projekte ARRS in sodelovala na domačih (ARRS, CRP, TIA) in mednarodnih projektih (COST, EUREKA, okvirni programi EU). **Bibliografija:** COBISS izpis obsega 383 enot, od tega 78 izvirnih in preglednih znanstvenih člankov. **Dodatne zadolžitve:** članica uredniškega odbora strokovne revije Zdravstveno varstvo.

Darja Barlič Maganja

Biography: Born in 1961 in Trbovlje, she studied at the UL, Faculty of Farmacy. In 1987 she was employed as a young researcher at Josef Stefan Institute. She finished master studies and her doctoral thesis in the field of microbiological sciences at the Biotechnical Faculty of the UL. In the period from 1995 to 2007 she was employed at the Veterinary Faculty of the UL as a head of the Molecular Virology Laboratory. During the year 1997 she was a visiting researcher at the National Institute of Animal Virus Diseases in Tuebingen, Germany. Since 2007 she has been active at the UP, Faculty of Health Sciences at pedagogical and management positions. In years 2010 and 2011 she worked as a head of Public Health Laboratories at the Institute of Public Health (IPH). Pedagogical work: Full Professor and Scientific Advisor in Microbiology, lecturer and subject holder of Microbiology, Pharmacology, Nutraceutics, Hygiene and Infection control in Health care at study programs Health Care and Nutrition counselling - Dietetics. Research: Research in the field of microbial pathogens in humans and animals, molecular diagnostics and typing of viruses and bacteria. Since 2014 she is leading the research program "Conservation biology from molecules to ecosystems". She also conducted ARRS research projects and participated in domestic (ARRS, CRP, TIA) and international projects (COST, EUREKA, EU Framework Program). Bibliography: The full bibliographic display comprises 383 bibliographic units, of which 78 are original and reviewed scientific articles. **Additional duties**: Member of the editorial board of the professional journal Slovenian Journal of Public Health.

Katja Bezek

Življenjepis: Rojena 1988 v Novem mestu, 2007-2012 študij mikrobiologije na Biotehniški fakulteti, Univerze v Ljubljani, kjer se je leta 2012 zaposlila kot mlada raziskovalka. Leta 2016 se je po zaključku doktorata zaposlila na UP Fakulteti za vede o zdravju, kjer opravlja pedagoško in raziskovalno delo. **Pedagoško delo:** Predavateljica iz področja Mikrobiologija in imunologija, na študijskih programih Zdravstvena nega in Prehransko svetovanje-dietetika sodeluje pri izvedbi predmetov: Mikrobiologija, Higiena in obvladovanje okužb v zdravstvu in je nosilka predmeta Okoljsko zdravje. **Raziskovalno delo:** Raziskave s področja s hrano povezanih mikroorganizmov, adhezija na površine in tvorba biofilma, naravna protimikrobna sredstva. Sodelovala je pri nekaj slovenskih projektih (ARRS, PKP) in je članica programske skupine »Zdravje živali, okolje in varna hrana«. COBISS izpis bibliografije obsega 44 enot.

Katja Bezek

Biography: Katja Bezek obtained her bachelor's and master's degree in Microbiology (2007-2012) at Biotechnical Faculty, University of Ljubljana where she also completed her PhD study in 2016. She is currently employed as a Research Assistant in the field of Microbiology and immunology at the University of Primorska, Faculty of Health Studies where she lectures on Microbiology, Hygiene and Environmental health. The main fields of her research work are: related microorganisms, surface adhesion and biofilm formation, natural antimicrobial agents. Research in the field of food-related microorganisms, surface adhesion and biofilm formation, natural antimicrobial agents. She has participated in several Slovenian projects (ARRS, PKP) and is a member of the program group "Animal Health, Environment and Safe Food". There are 44 units in her COBISS bibliography.

Jernej Drofenik

Življenjepis: Rojen 1972 v Celju, leta 1996 diplomiral na Fakulteti za kemijo in kemijsko tehnologijo Univerze v Ljubljani, nadaljeval podiplomski študij na isti fakulteti in leta 2002 pridobil naziv doktor kemijskih znanosti. V času opravljanja doktorata se je na Danskem, na povabilo danskega nacionalnega instituta Riso, dodatno usposabljal na področju elektrokemije.1996-2002 je bil mladi raziskovalec na Kemijskem inštitutu Slovenije, od septembra 2002 pa je poklicno pot nadaljeval v Upravi RS za varstvo rastlin in semenarstvo kot podsekretar na sektorju, pristojnem za fitofarmacevtska sredstva. Leta 2010 je postal vodja sektorja za fitofarmacevtska sredstva, ki je deloval znotraj takratne Fitosanitarne uprave RS. Z ustanovitvijo Uprave RS za varno hrano, veterinarstvo in varstvo rastlin UVHVVR je bil konec leta 2012 imenovan za vršilca dolžnosti generalnega direktorja UVHVVR. Aprila 2013 je prevzel vodenje Sektorja za fitofarmacevtska sredstva znotraj UVHVVR, od leta 2015 do konca leta 2019 je bil namestnik generalnega direktorja UVHVVR, dne 16. 3. 2020 je bil ponovno imenovan za vršilca dolžnosti generalnega direktorja UVHVVR.

Jernej Drofenik

Biography: Jernej Drofenik was born in 1972 in Celje. He graduated from the Faculty of Chemistry and Chemical Technology of the University of Ljubljana in 1996 and continued his postgraduate studies at the same faculty and obtained the title of Doctor of Chemical Sciences in 2002. During his postgraduate studies, he received additional training in electrochemistry in Denmark, at the invitation of the Danish National Riso Institute. From 1996 to 2002 he was a young researcher at the Institute of Chemistry of Slovenia, and from September 2002 he continued his career in the Administration of the Republic of Slovenia for Plant Protection and Seed Production as an undersecretary in the sector responsible for plant protection products. In 2010, he became the head of the sector for plant protection products, which operated within the Phytosanitary Administration of the Republic of Slovenia. With the establishment of the Administration of the Republic of Slovenia for Food Safety, Veterinary Sector and Plant Protection (UVHVVR), he was appointed Acting Director General of the UVHVVR at the end of 2012. In April 2013 he took over the management of the Sector for Plant Protection Products within the UVHVVR, from 2015 to the end of 2019 he was Deputy Director General of UVHVVR, on 16 March 2020 he was re-appointed Acting Director General of UVHVVR.

Mojca Jevšnik

Življenjepis: Rojena 1972 v Celju, 1991–97 – študij na Visoki šoli za zdravstvo, Oddelek za sanitarno inženirstvo UL. Leta 1997 se je zaposlila na Zavodu za zdravstveno varstvo v Celju in v letu 1998 kot asistentka na Visoki šoli za zdravstvo UL, sedaj Zdravstveni fakulteti (ZF). Na Biotehniški fakulteti UL je 2001 zaključila magisterij, 2008 pa doktorat s področja živilstva. V letu 2002 je bila imenovana kot presojevalka standarda ISO 9001 in 2003 vodilne presojevalke sistema HACCP pri SIQ. Je notranja presojevalka sistemov kakovosti IFS in ISO 22000. V obdobju od 2006-08 je bila predstojnica Oddelka za sanitarno inženirstvo, sedaj je članica senata ZF. **Pedagoško delo:** Docentka za področje sanitarno inženirstvo (SI), predavateljica in nosilka predmetov na dodiplomskem študijskem programu SI: Osnove higiene in etika, Higiena objektov in procesov, sonosilka predmetov Komunalna higiena, Tehnologija in varnost živil, Dobre prakse v živilski verigi; sonosilka pri podiplomskih predmetih Novi trendi v SI in Metode vzorčenja. Je mentorica in somentorica pri diplomskih, magistrskih in doktorskih nalogah. Urednica in soavtorica univerzitetnih učbenikov Higiena objektov in procesov in Uvod v varnost in kakovost živil. **Raziskovalno delo:** Raziskave na področju higiene objektov in procesov ter varnosti in kakovosti živil na različnih stopnjah živilske verige. Vodi laboratorij za higieno objektov in procesov. **Bibliografija:** SICRIS izpis obsega 459 enot, od tega 50 izvirnih in preglednih znanstvenih člankov. **Dodatne zadolžitve:** Aktivna članica Zbornice sanitarnih inženirjev Slovenije ter Inštituta za sanitarno inženirstvo. Predsednica Certifikacijskega odbora TÜV SÜD Sava d.o.o.

Mojca Jevšnik

Biography: Born 1972 in Celje, 1991-1997 Bachelor study of sanitary engineering at University of Ljubljana. In 1997 she was employed at the Health Care Institute in Celje and in 1998 as an assistant at the University of Ljubljana's College of Health Studies. At the Biotechnical Faculty, UL she was graduated in 2001 and a PhD in 2008 in the field of food. In 2002, she was appointed as an auditor of the ISO 9001 and 2003 leading auditor of the HACCP system at SIQ. She is an internal auditor of quality systems IFS and ISO 22000. From 2006 to 2008 she was a Head of the Sanitary Engineering Department. **Pedagogical work:** Assistant professor in the field of sanitary engineering, lecturer at the undergraduate sanitary engineering study program - subjects: Fundamentals of Hygiene and Professional Ethics, Hygiene of Premises and Processes, Technology and Food Safety, Good Practices in the Food Chain; postgraduate subjects: New trends in Sanitary Engineering and Sampling methods. She is a mentor and co-mentor at graduation, master and doctoral theses. Editor and co-author of university textbook. **Research work:** Research in the field of hygiene of premises and processes and the food safety and quality in food supply chain. She is a Head of the Laboratory for the Hygiene of Premises and Processes. **Bibliography:** In total 459 units among which 50 original and review scientific papers. **Additional assignments**: Active member of the Chamber of Sanitary Engineers of Slovenia and the Institute of Public and Environmental Health. Chairman of the Certification Committee TÜV SÜD Sava d.o.o.

Andrej Kirbiš

Življenjepis: Rojen 1970 v Mariboru, 1990–1996 študij veterinarske medicine na Veterinarski fakulteta, Univerze v Ljubljani, 2002 – magisterij na Veterinarski fakulteti, UL, 2006 – doktorat na Univerzi v Ljubljani , 2014 - specialist iz področja Veterinarskega javnega zdravstva in varne hrane, 2018 - sodni izvedenec iz področja Veterinarskega javnega zdravstva in varne hrane. **Pedagoško delo:** redni profesor za področje Veterinarska medicina. Nosilec štirih predmetov na dodiplomskem študiju na Veterinarski fakulteta, UL, enega na ZF, UL, ter enega na FKBV, UM. Na podiplomskem študiju biomedicine je nosilec modula in nosilec pri izbirnem predmetu. Soavtor univerzitetnega učbenika "Veterinarsko-sanitarni nadzor klavnih živali in mesa". **Raziskovalno delo:** Raziskovalno delo je usmerjeno predvsem na področje ugotavljanje in določanje antibiotikov v živilih živalskega izvora, ter ugotavljanje protimikrobne rezistence v živilih, nadalje na ugotavljanje in določanje morskih biotoksinov v školjkah; bakteriološka in virusna kontaminacija školjk ter razvoj metod pri ugotavljanju virusov v živilih živalskega izvora**. Bibliografija:** http://izumbib.izum.si/bibliografije/ Y20200601080252-A4703843.html **Dodatne zadolžitve na UL:** 2013-, dekan veterinarske fakultete, UL. **Dodatne zadolžitve izven univerze:** predsednik Sekcije veterinarjev v izobraževanju, raziskovanju in diagnostiki pri Veterinarski zbornici Slovenije, član sveta za varno hrano, posvetovalno telo ministrice za MKGP, član skupine evropskih veterinarskih učiteljev za varno hrano, predstavnik v združenju veterinarjev Evrope (FVE-UEVH

Andrej Kirbiš

Biography: Born 1970 in Maribor, 1990-1996 studies of veterinary medicine at the Faculty of Veterinary Medicine, University of Ljubljana, 2002 - Master's degree, 2006 - PhD, 2014 - specialist in the field of Veterinary public health and food safety, 2018 - forensic expert in the field of Veterinary public health and food safety.**Teaching work:** Full Professor in the field of Veterinary Medicine. Lecturer in undergraduate and in the postgraduate study. Co-author of the university textbook "Veterinary and sanitary control of slaughter animals and meat".**Research work:** The research work is focused mainly on the detection and determination of antibiotics in food of animal origin, as well as the detection of antimicrobial resistance in food, further on the detection and determination of marine biotoxins in shellfish; bacteriological and viral contamination of food and the development of methods for the detection of viruses in foodstuffs of animal origin. **Bibliography:** http://izumbib.izum.si/bibliografije/Y20200601080252-A4703843.html **Additional duties at Veterinary faculty, University of Ljubljana:** 2013-, Dean of the Faculty of Veterinary Medicine, UL. **Additional duties outside the university**: President of the Veterinary Section in Education, Research and Diagnosis at the Veterinary Chamber of Slovenia, Member of the Food Safety Council, Advisory Body of the Minister for MAFF, forensic expert in field of veterinary public health and food safety in the Ministry of Justice, Member of the EVFST, Representative in the Association of Veterinarians of Europe (FVE - UEVH).

Blaža Nahtigal

Rojena 1965 v Ljubljani, 1990 zaključila diplomski študij, leta 1996 magistrski študij in 2004 doktorski študij na UL, Biotehniški fakulteti, Oddelku za živilsko tehnologijo. 1998 zaključila program izpopolnjevanja pedagoško andragoške izobrazbe na UL, Filozofska fakulteta. 1990 se je zaposlila na Biotehniški fakulteti, Oddelku za živilsko tehnologijo UL kot mlada raziskovalka in asistentka, 1995 na IVZ Višnja Gora kot srednješolska učiteljica, 2005 na Ministrstvu za obrambo kot višja svetovalka za prehrano. Od leta 2006 je zaposlena na Ministrstvu za kmetijstvo, gozdarstvo in prehrano, sedaj kot sekretarka na Upravi za varno hrano, veterinarstvo in varstvo rastlin, kjer opravlja naloge EFSA informacijske točke in Codex kontaktne točke. **Pedagoško delo:** Asistentka za področje analize živil, srednješolska učiteljica za področja prehrane in varnosti živil, vabljena predavateljica za predstavitve vsebin v povezavi z delovanjem EFSA in Codex Alimentraius, somentorica pri diplomskih in magistrskih nalogah. **Raziskovalno delo:** Raziskave na področju analize živil in varnosti hrane. **Bibliografija:** COBISS izpis obsega 160 enot. **Dodatne zadolžitve:** Članica Slovenskega prehranskega društva.

Blaža Nahtigal

Biography: Born in 1965 in Ljubljana, graduated in 1990 (Determination of the total acidity of honey by the potentiometric titration technique), received a M.Sc. degree in 1996 (A comparison between the chromatographic and spectrophotometric method of establishing phosphates in poultry meat products) and doctoral degree in 2004 (Contents of fatty acids, cholesterol and cholesterol oxides in ordinary and omega-3 enriched eggs, prepared in different ways) at the University of Ljubljana, Biotechnical Faculty, Department of Food Technology. In 1998 she completed the postgraduate complementary education, pedagogic-andragogic training program at the UL, Faculty of Philosophy. In 1990, she was employed at the UL, Biotechnical Faculty, Food Technology Department as a young researcher and assistant, 1995 at the IVZ Višnja Gora as a high school teacher in the field of nutrition and food safety, 2005 at the Ministry of Defense as a Senior Adviser for nutrition. Since 2006, she has been employed at the Ministry of Agriculture, Forestry and Food, now as a secretary at the Administration for Food Safety, Veterinary Sector and Plant Protection, where she performs the tasks of the EFSA Focal Point and Codex Contact Point. **Pedagogical work:** Assistant at the field of food analysis, high school teacher in the field of nutrition and food safety, invited lecturer for issues related to EFSA and Codex Alimentarius, co-mentor at the graduation and master theses. **Research work:** Research in the field of food analysis and food safety.**Bibliography:** The COBISS printout comprises 160 units.**Additional responsibilities:** Member of the Slovene Nutrition Society.

Matjaž Ocepek

Življenjepis: Rojen 1964 v Ljubljani, 1983 – 1989 – Študij na Biotehniški Fakulteti, VTOZD za veterinarstvo na Univerzi v Ljubljani. Leta 1989 se je zaposlil kot mladi raziskovalec na Veterinarski fakulteti UL, na Inštitutu za mikrobiologijo in parazitologijo. Na Veterinarski fakulteti UL je leta 1992 zaključil magisterij, 1995 pa doktorat. Predstojnik Nacionalnega veterinarskega inštituta. Ob vodenju inštituta razvija in vpeljuje molekularne metode za diagnostiko bakterijskih bolezni živali, še posebej zoonoz. Je specialist iz področja mikrobiologije in imunologije in EBVS® evropski specialist veterinarske znanosti iz področja veterinarske mikrobiologije (European College of Veterinary Microbiology – ECVM). Od ustanovitve je član upravnega odbora ECVM. V letih 2014 do 2016 je bil predsednik Slovenskega mikrobiološkega društva. **Pedagoško delo:** Od začetka zaposlitve na Veterinarski fakulteti sodeluje v pedagoškem procesu in je aktiven predvsem pri podiplomskem študiju. Je bil mentor pri šestih zaključenih doktoratih in somentor pri treh. **Raziskovalno delo:** Od leta 2009 je vodja raziskovalnega programa Zdravje živali, okolje in varna hrana. Obenem vodi, oziroma je vodil več kot 10 temeljnih in ciljnih raziskovalnih projektov. **Bibliografija**: SICRIS izpis obsega preko 400 enot, od tega 100 izvirnih in preglednih znanstvenih člankov.

Matjaž Ocepek

Biography: Born 1964 in Ljubljana, 1983-1989 - studies at the Biotechnical Faculty, Department of Veterinary medicine at University of Ljubljana (UL). In 1989 he was employed as a young researcher at Veterinary faculty, UL, Institute for microbiology and parasitology. He completed his master and doctoral studies at Veterinary faculty, UL. Matjaž Ocepek is the Head of the National Veterinary Institute at the Veterinary Faculty. Beside leading the Institute, he is engaged in development and implementation of the molecular methods for diagnostics of animal diseases, especially zoonoses. He is a specialist for microbiology and immunology and EBVS® European Specialist in Veterinary Microbiology. He is, since the establishment, a Board Member of the European College of Veterinary Microbiology. From 2014 to 2016 he was the president of the Slovenian Microbiological Society. **Pedagogical work:** Since the beginning of his employment at the Veterinary Faculty, he has been involved in the pedagogical process and is mainly active in postgraduate studies. He has been a mentor at six and a co-mentor at three completed PhD dissertations. **Research work:** From 2009 he is the principal investigator of the research program Animal health, environment and food safety. In addition, he also leads or has led more than 10 basic and targeted research projects. **Bibliography:** The SICRIS list more than 400 units, of which 100 are original scientific and review articles.

Andrej Ovca

Življenjepis: Rojen 1984 v Ljubljani, 2002–2006 študij sanitarnega inženirstva na Univerzi v Ljubljani. 2006–2010 – magistrski študij znanosti o okolju na Univerzi v Novi Gorici, 2010 – magisterij. 2011–2018 – Interdisciplinarni doktorski študijski program Bioznanosti – smer živilstvo na Biotehniški fakulteti na Univerzi v Ljubljani, 2018 – doktorat (»Skladnost formalnega izobraževanja na področju varnosti živil s potrebami živilsko-prehransko-oskrbovalne verige«). **Pedagoško delo:** Docent za področje sanitarnega inženirstva. Soavtor univerzitetnega učbenika Higiena objektov in procesov. Soavtor in sourednik univerzitetnega učbenika Uvod v varnost in kakovost živil. **Raziskovalno delo:** Širše področje higiene in varnosti živil s posebnim zanimanjem za človeka kot dejavnik tveganja pri zagotavljanju varnosti živil. **Biblografija:** COBISS-izpis obsega 210 enot, od tega 17 izvirnih in 2 pregledna znanstvena članka, 2 poglavji v znanstveni monografski publikaciji. **Dodatne zadolžitve na UL ZF:** Predstavnik Zdravstvene fakultete v Ljubljani v mednarodni zvezi za okoljsko zdravje (IFEH), Oddelčni koordinator za mednarodno sodelovanje, Oddelčni koordinator strokovne prakse, učitelj tutor. **Dodatne zadolžitve izven UL ZF:** Glavni urednik revije International Journal of Sanitary Engineering Research, urednik spletnega portala Sanitarc.si, član Evropske zveze za javno zdravje (The European Public Health association), član mednarodne zveze za okoljsko zdravje (International Federation of Environmental Health).

Andrej Ovca

Biography: Born 1984 in Ljubljana, 2002-2006 studies of sanitary engineering at the University of Ljubljana. 2006-2010 - Master's degree in Environmental Science at the University of Nova Gorica. 2011-2018 - Interdisciplinary doctoral study program Bioznanosti - life in Biotechnical faculties at the University of Ljubljana, 2018 - PhD ("Compliance of formal education in the area of animals with the needs of the food and nutrition-supply chain"). **Pedagogical work:** Assistant Professor for Sanitary Engineering. Co-author of university textbook Hygiene facilities and processes. Co-author and co-editor of university textbook Introduction to food safety and food quality. **Research work:** A wider field of food hygiene and food safety with special interest in human as a risk factor. **Biblography:** The COBISS list 210 units including 17 original scientific articles, 2 review scientific articles, 2 scientific monograph chapters. **Additional assignments**: Representative of the Faculty of Health sciences in Ljubljana in the International Federation of Environmental Health, Departmental Co-ordinator for International Cooperation, Departmental Co-ordinator for professional training, Tutor. Editor-in-Chief of International Journal of Sanitary Engineering, Member of the European Public Health Alliance, Member of the International Association for Environmental Health.

Karmen Pažek

Življenjepis: Rojena 1976 v Slovenj Gradcu. Med leti 1996 in 2000 se je izobraževala na Fakulteti za kmetijstvo, Univerze v Mariboru, kjer je leta 2000 diplomirala. V letu 2001 se zaposli na isti Fakulteti kot asistentka za področje Travništva. V času med 2000 in 2003 vpiše magistrski študijski program Agrarne ekonomike na isti fakulteti in leta 2003 magistrira s področja Agrarne ekonomike. V istem letu vpiše doktorski študij Agrarne ekonomike na Fakulteti za kmetijstvo in pridobi status mlade raziskovalke. Leta 2006 uspešno zaključi doktorski študij Agrarne ekonomike na Univerzi v Mariboru. **Pedagoško delo:** Od 2001 je habilitirana na Univerzi v Mariboru, na Fakulteti za kmetijstvo in biosistemske vede (redna profesorica je od leta 2016) za predmetno področje Management v kmetijstvu. Je nosilka več predmetov na vseh stopnjah študija. Trenutno je predstojnica visokošolskega strokovnega študija Agrarna ekonomika in razvoj podeželja ter prodekanica za izobraževanje. **Raziskovalno delo:** Raziskave na področju modeliranja kmetijskih sistemov za potrebe podpore odločanju z uporabo simulacije, večkriterijske analize, opcijskega modeliranja, tveganja v kmetijstvu in ostalih sodobnih metod operacijskega raziskovanja.**Bibliografija:** Celotna bibliografija zajema 499 enot, od tega 64 izvirnih znanstvenih člankov in 6 znanstvenih monografij.

Karmen Pažek

Biography: Born in 1976 in Slovenj Gradec. Between 1996 and 2000 she studied at the Faculty of Agriculture, University of Maribor, where she graduated in 2000. In 2001 she was employed at the same faculty as an assistant for the field of grassland management. Between 2000 and 2003, she enrolled in the master's study program in Agriculture Economics at the same faculty, and in 2003 she received her master's degree in Agriculture Economics. In the same year, she enrolled in a doctoral study in Agriculture Economics at the Faculty of Agriculture and obtained the status of a young researcher. In 2006 she successfully finished the Ph. D. study in Agriculture Economics at the University of Maribor.**Pedagogical work:** Since 2001 she has been habilitated at the University of Maribor, at the Faculty of Agriculture and Life Sciences (she has been a full professor since 2016) for the field of Farm management. She holds several courses at all levels of study. She is currently the head of the 1st degree study Agriculture Economics and Rural Development and the Vice Dean for Education.**Research work:** Her research includes development of decision support tools and systems for farm management (simulation modeling, multicriteria decision analysis, option models, risk), economics of agricultural production other modern methods of operational research.**Bibliography:** She is author or coauthor of 499 units; 64 of that are original scientific articles and 6 scientific monographs.

Ožbalt Podpečan

Življenjepis: Rojen 1972 v Celju, 1991 – 1997 – Študij na Veterinarski Fakulteti, Univerze v Ljubljani. Leta 1997 se je na Savinjski veterinarski postaji v Žalcu. Na Veterinarski Fakulteti Univerze v Ljubljani je leta 2005 zaključil magisterij, 2008 pa še doktorat iz področja zdravstvenega varstva in reprodukcije prežvekovalcev. Leta 2007 je postal diplomat Evropsekga kolegija za zdravstveno varstvo goveda. Od leta 2016 je predsednik Veterinarske zbornice Slovenije in od leta 2018 izredni profesor na na Veterinarski Fakulteti Univerzi v Ljubljani. Je direktor Savinjske veterinarske postaje Žalec. **Pedagoško delo**: Od leta 2010 vodi klinično prakso za proizvodne živali za študente Veterinarske Fakultete in je nosilec predmeta Specialna kirurgija goveda. **Raziskovalno delo**: Raziskave s področja reprodukcije, kirurgije, metabolizma in zdravja mlečne žleze pri govedu. **Bibliografija**: SICRIS izpis obsega preko 96 enot, od tega 17 izvirnih in preglednih znanstvenih člankov.

Ožbalt Podpečan

Biography: Born in 1972 in Celje, 1991-1997 – completed studies at Veterinary Faculty, University of Ljubljana (UL). Since 1997 he has been employed at Savinian Veterinary Polyclinic in Žalec. He has completed his master studies in 2005 and doctoral studies in 2008 at Veterinary faculty, UL. Since 2007 he is a diplomate of European College for Bovine Health Management, since 2016 he is an elected president of Veterinary Chamber of Slovenia. He has become an associate professor at Veterinary faculty UL in 2018. Currently he is a director of Savinian Veterinary Policlinic in Žalec. **Pedagogical work:** Since 2010 he runs an intramural clinical training for veterinary students in the field of production animals. He also gives lecture courses in Advanced surgery of bovines. **Research work:** His main topics of research are reproduction, surgery, metabolic disorders and udder health of bovines. **Bibliography:** The SICRIS listed 96 units, of which 17 are original scientific and review articles.

Janez Posedi

Življenjepis: Rojen leta 1967 v Frankfurtu, Zvezna Republika Nemčija. Študiral je na Univerzi v Ljubljani, kjer je na Veterinarski Fakulteti pridobil naziv doktor veterinarske medicine (1994). Na Univerzi v Ljubljani je pridobil tudi naziva Magister znanosti iz področja veterinarske mikrobiologije (2000) in Doktor znanosti na področju Parazitologije (leta 2003). Od leta 1994 je zaposlen na Veterinarski fakulteti Univerze v Ljubljani. Tam se je naprej ukvarjal s tuberkulozo živali nato s parazitologijo. Bil je namestnik predstojnika Inštituta za mikrobiologijo in parazitologijo (od 1.12.2009 do 15.3.2015), vodja Nacionalnega referenčnega laboratorija za parazite (od 1.5.2007 do 15.3.2015), vodja Laboratorija za parazite na Enoti za diagnostiko kužnih in drugih bolezni na Nacionalnem veterinarskem inštitutu - NVI (od 1.8.2008 do 15.3.2015), vodja Enote za parazitologijo na Inštitutu za mikrobiologijo in parazitologijo (od 12.11.2004 do 15.3.2015), vodja Nacionalnega referenčnega laboratorija za parazite (od 1.5.2007 do 15.3.2015), vodja Enote za parazitologijo na Inštitutu za mikrobiologijo in parazitologijo (od 12.11.2004 do 15.6.2015) ter vodja Sprejemnice vzorcev na Nacionalnem veterinarskem inštitutu - NVI (od 1.1.2003 do 1.10.2005). Trenutno dela kot veterinar specialist v parazitološkem laboratoriju. Od marca 2015 do marca 2020 je bil Generalni direktor Uprave Republike Slovenije za varno hrano, veterinarstvo in varstvo rastlin. **Bibliografija:** SICRIS izpis obsega 59 enot, od tega 15 izvirnih in preglednih znanstvenih člankov.

Janez Posedi

Biography: Born in 1967 in Frankfurt, Federal Republic of Germany. He studied at the University of Ljubljana, where he obtained the degree of Doctor of Veterinary Medicine (1994) at the Faculty of Veterinary Medicine. He also obtained the title of Master of Science in Veterinary Microbiology (2000) and Doctor of Science in Parasitology (2003) at the University of Ljubljana. Since 1994 he has been employed at the Faculty of Veterinary Medicine, University of Ljubljana. There he further dealt with animal tuberculosis then parasitology. He was the Deputy Head of the Institute of Microbiology and Parasitology (from 1 December 2009 to 15 March 2015), Head of the National Reference Laboratory for Parasites (from 1 May 2007 to 15 March 2015), Head of the Laboratory for Parasites at the Unit for Diagnosis of Infectious and Other Diseases. National Veterinary Institute - NVI (from 1.8.2008 to 15.3.2015), Head of the Parasitology Unit at the Institute of Microbiology and Parasitology (from 12.11.2004 to 15.3.2015), Head of the National Reference Laboratory for Parasites .2015), Head of the Unit for Parasitology at the Institute of Microbiology and Parasitology (from 12.11.2004 to 15.6.2015) and Head of the Sample Receiver at the National Veterinary Institute - NVI (from 1.1.2003 to 1.10.2005). He currently works as a veterinarian specialist in a parasitology laboratory. From March 2015 to March 2020, he was the Director General of the Administration of the Republic of Slovenia for Food Safety, Veterinary Medicine and Plant Protection. Bibliography: The SICRIS report comprises 59 units, of which 15 are original and reviewed scientific articles.

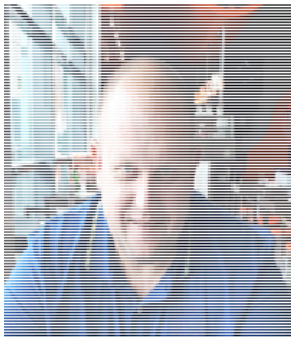
Peter Raspor

Življenjepis: Rojen v Dolgi poljani, 1954. Maribor: Pekovska šola (1971), živilska tehnična šola (1975). Ljubljana: Živilska tehnologija, BF Univerza v Ljubljani. Diploma na živilstvu (1983) Zagreb: Doktorat s področja biotehnologije (1987) London: Institute Labatt 1989 podoktorska specializacija. Docent za področje biotehnologije in industrijske mikrobiologije (1989), izredni profesor (1992), redni profesor (1996). Ustanovitev katedre za biotehnologijo (1992) **Dela**: Mlinotest Ajdovščina (1969-86), Labatt (1987-89), Univerza v Ljubljani (1989-2013). Univerza na Primorskem (2014-16). **Pedagoško delo:** Postavil je podiplomski študij biotehnologije na UL (1994); dodiplomski študij biotehnologije na BF (2004). Mentoriral je 55 disertacij, 18 magisterijev, 145 diplom, med njimi ducat nagrajencev. **Raziskovalno delo:** Vodil je več deset projektov: živilstvo, industrijsko mikrobiologijo in biotehnologijo ter varnost živil. **Bibliografija:** SICRIS obsega 1830 enot, 215 znanstvenih člankov, številne strokovne članke in preko 100 vabljenih predavanj **Nagrade in priznanja**: Za svoje delo je med drugim prejel tri častne doktorate in tri najvišje državne nagrade. **Drugo:** Sodeloval pri postavitvi LUI inkubator na UL, pomagal pri nastanku 5 biotehnoloških podjetij. Vključen v sisteme kakovosti ISO in v mednarodne presoje kakovosti v visokem šolstvu. Snoval in vodil je sprejetje dveh deklaracij: o mikrobiologiji leta 2004, in deklaracijo o hrani, prehrani in tehnologiji leta 2008. Postavil je tri kongresne mreže, ki so začele svojo pot v Ljubljani, CEFood 2002, FEMS 2004 in EFFoST 2008.

Peter Raspor

Biography:: Born in Dolga Poljana, 1954. Maribor: Bakery school (1971), food technical school (1975). Ljubljana: Food Technology, BF,UL Graduate diploma in food technology (1983), Zagreb: Doctorate in Biotechnology (1987) Faculty of Food Technology and Biotechnology, London Labatt Institute (1989). Postdoctoral specialization Assistant Professor in Biotechnology and Industrial Microbiology (1989), associate professor (1992), full professor (1996). Establishment of the Department of Biotechnology (1992). **Working activity**: Mlinotest Ajdovščina (1969-86), Labatt (1987-89), University of Ljubljana (1989-2013). University of Primorska (2014-2016). **Pedagogical work**: He established post-graduate biotechnology study at UL (1994); undergraduate biotechnology study at BF (2004). He mentored 55 dissertations, 18 master's degrees, 145 diplomas, among them a dozen of prize winners. **Research work**: He has led dozens of projects. food, industrial microbiology and biotechnology, and food safety. **Bibliography:** SICRIS lists 1830 bibliographic units, 215 scientific articles, numerous expert articles, a few dozen book chapters, several patents, over 100 invited lectures. **Awards and recognitions:** He has received three honorary doctorates and three top state awards for his work. **Additionaly**: He helped set up the LUI incubator at UL, 5 biotech companies. He was involved with ISO and international audits in higher education for research and teaching. He established and led the adoption of two declarations: on microbiology in 2004, and a declaration on food, nutrition and technology in 2008. He set up three congressional networks that began their journey in Ljubljana, CEFood 2002, FEMS 2004 in EFFoST 2008.

Črtomir Rozman



Življenjepis: Rojen 1974 na Ptuju, 1993–1998 – študij na Fakulteti za kmetijstvo, na Univerzi v Mariboru. V letu 1999 se zaposli in prejme štipendijo za mlade raziskovalce in se vpiše na magistrski študij Agrarna ekonomika na Agronomski fakulteti Univerze v Zagrebu, ki ga zaključi leta 2001. Doktorira leta 2004 na doktorskem študiju Agrarna ekonomika na Univerzi v Mariboru.
Pedagoško delo: Od 2004 habilitiran na Univerzi v Mariboru, na Fakulteti za kmetijstvo in biosistemske vede (redni profesor od 2014) za predmetno področje Management v kmetijstvu, nosilec večih predmetov na vseh stopnjah študija. Trenutno je predstojnik doktorskega študija Agrarna ekonomika. **Raziskovalno delo:** Raziskave na področju modeliranja kmetijskih sistemov za potrebe podpore odločanju z uporabo simulacije, večkriterijske analize in ostalih sodobnih metod operacijskega raziksovanja. **Bibliografija:** Celotna bibliografija zajema 563 enot, od tega 45 znanstvenih člankov z JCR faktorjem ter 5 znanstvenih monbografij.

Črtomir Rozman

Biography: Born in 1974 in Ptuj, 1993–1998 - studies at the Faculty of Agriculture, University of Maribor. 1999-2001 the master's degree in Agricutural Economics at the Faculty of Agriculture, University of Zagreb. He received his PhD in 2004 from the doctoral study of Agricultural Economics at the University of Maribor.
Pedagogical work: He has been a professor of farm management at Faculty of agriculture and Life Science University of Maribor since 2004 (full professor since 2013). He teaches multiple courses at B.Sc., master and PhD studies. He is also a PhD study coordinator.
Research work: Research in the field of modelling agricultural systems, simulation modelling, multi criteria analysis and farm management decision support. **Bibliography:** 563 bibliographical units, including 45 scientific paper with journal citation report impact factor and 5 scientific books.

Sonja Smole Možina

Življenjepis: Rojena l. 1963 v Ljubljani. Na Biotehniški fakulteti je l. 1986 končala študij živilske tehnologije ter se l. 1987 zaposlila kot asistentka stažistka. L. 1996 doktorirala s področja mikrobioloških znanosti s temo molekularno-genetske karakterizacije kvasovk iz okolja in industrijskih procesov. L. 1997 je na BF UL postala docentka za področje industrijske mikrobiologije, l. 1999 pa predstojnica Katedre za živilsko mikrobiologijo z mlado, a uspešno raziskovalno skupino. Leta 2002 je postala izredna, leta 2008 redna profesorica mikrobiologije. **Poučuje** splošno in živilsko mikrobiologijo ter mikrobiološko varnost živil na študijih mikrobiologije, biotehnologije ter živilstva in prehrane na BF UL ter kot stalna gostujoča profesorica MSc študija SIFC, »Varnost v živilski proizvodno-prehranski oskrbovalni verigi«, šestih univerz EU, s koordinatorstvom Univerze BOKU na Dunaju (A). Na BF UL je dolgoletna koordinatorica tematske mreže CEEPUS ("Za boljšo varnost hrane v EU") in koordinatorica področja živilstvo doktorskega programa Bioznanosti. Mentorica ali somentorica 90 BSc, 28 MSc in 11 PhD študentom. Od l. 2014 vodi Katedro za biotehnologijo, mikrobiologijo in varnost živil na Oddelku za živilstvo, BF UL. **Glavna področja raziskovalnega dela** so mikrobna ekologija hrane in živilskih procesov, stresni odziv in mikrobiološka odpornost v okolju proizvodnje hrane, izkoriščanje naravnih bioaktivnih snovi in stranskih proizvodov živilstva za izboljšanje varnosti, kakovosti in trajnosti živil. **Bibliografija**: 800 enot COBISS, 116 originalnih znanstvenih člankov, 6 preglednih znanstvenih člankov, 35 poglavij v monografijah ali univerzitetnih učbenikih. WEB/SCOPUS 2010-20 navaja 1605/1800 čistih citatov, h-index 21. **Druge mednarodne zadolžitve:** Članica uredniškega odbora raziskovalnih revij in slovenska predstavnica v zvezi ICFMH in COST.

Sonja Smole Možina

Biography: Born in Ljubljana in 1963. Graduated in Food Science and Technology in 1986 at BF UL Ljubljana. After that she started postgraduate study of Microbiology and defended PhD thesis in Molecular characterization of ascomycetous yeasts from environment and industrial processes in 1996. She started **teaching** at BF UL as assistant professor in 1997, associate professor in 2002 and full professor in 2008 in the fields of general and food microbiology on different levels of study programmes Microbiology, Biotechnology, Food Science and Nutrition. She is a regular guest professor at MSc study of SIFC (»Safety in the Food Chain«) at BOKU, Vienna (Austria). At BF UL she is coordinating thematic CEEPUS network (»For Better Food Safety in EU«) and the field of Food Technology at doctoral programme of Biosciences. In the last 20 years she has been/is mentoring or comentoring of 90 BSc, 28 MSc and 11 PhD students. From 2014 she is the Head of Chair of Biotechnology, Microbiology and Food Safety. **Research interests include** microbial ecology of food and nutrition, microbiology of food processing, microbial stress response and resistance in food-related environment, bioactive components from plant origin, including by-products and waste materials from food and related industries and their potential for improving safety, quality and shelf-life of food products. **Bibliography:** 800 units in COBISS, 116 original scientific papers, 6 review articles, 35 chapters (in monographies, university textbooks). In WEB/SCOPUS 2010-2020 currently 1605/1800 pure citates, h-index 21. **Other international professional functions**: Member of the editorial board of several research journals and Slovenian representative in the International Commission for Food Microbiology and Hygiene (ICFMH) and in COST network.

Branko Tomažič

Življenjepis: Rojen 1961 v Postojni, v številni kmečki družini stanujoč Vrhpolje pri Vipavi. Po srednji kmetijski šoli Maribor, je nadaljeval študij na Biotehniški fakulteti, Oddelek za živinorejo Univerza v Ljubljani. Leta 1984 se je zaposlil v takratni kmetijski zadrugi Vipava, kot svetovalec. Kmalu je prevzel vodenje farme Vipava in jo uspel pripeljati v bok najboljših v Sloveniji. Začel je biti aktiven v KS Vrhpolje in nato tudi v takratni skupščini občine Ajdovščina, kot predsednik Izvršnega sveta. Nato je vodil tajništvo novoustanovljene občine Vipava. Leta 1996 je bil izvoljen v DZ RS za poslanca. Po mandatu je vodil KZ Vipava, od leta 2000 pa kmetuje na domači kmetiji. Zaradi težav v kmetijstvu, je večji del svojega dela namenjal kmetijstvu in tudi v KGZS bil v dveh mandatih podpredsednik. Kot predstavnik kmetov v DS RS v tem mandatu opozarja na težave in probleme, ter na nujne spremembe za povečanje samooskrbe s hrano. Je zagovornik večje kontrole na sledljivosti in pravilni označbi hrane, ki pride preko meje na Slovenski trg. Slovenski javnosti poskuša prikazati, da je potrebno zveri omejiti na ustrezno število, ki ga Slovenski prostor premore za zagotavljanje varnosti in sobivanja.

Branko Tomažič

Biography: Born in 1961 in Postojna, living in a large peasant family in Vrhpolje near Vipava. After the Secondary Agricultural School in Maribor, he continued his studies at the Biotechnical Faculty, Department of Animal Husbandry, University of Ljubljana. In 1984, he joined the then agricultural cooperative Vipava as a consultant. He soon took over the management of the Vipava farm and managed to bring it alongside the best in Slovenia. He became politicaly active in Vrhpolje and consequently in the assembly of the municipality of Ajdovščina, as the president of the Executive Council. He then headed the secretariat of the newly established municipality of Vipava. In 1996 he was elected a Member of the National Assembly of the Republic of Slovenia. After his term of office, he headed KZ Vipava, and since 2000 he has been farming on a home farm. Due to problems in agriculture, he devoted most of his work to agriculture and was also vice-president of Agriculture chamber of Slovenia for two terms. As the representative of farmers in the National councel of the Republic of Slovenia in this term of office, he draws attention to problems and problems, and to the necessary changes to increase self-sufficiency in food supply. He is an advocate of greater control over the traceability and correct labeling of food that comes across the border to the Slovenian market. It tries to show the Slovenian public that it is necessary to limit carnivores to the appropriate number that the Slovenian space has to ensure security and coexistence.

Olga Zorman Rojs

Življenjepis: Rojena 1960 v Slovenj Gradcu, 1979 – 1985 – Študij na Biotehniški Fakulteti, VTOZD za veterinarstvo na Univerzi v Ljubljani. Leta 1985 se je zaposlila kot mlada raziskovalka na Veterinarski fakulteti UL, na Inštitutu za bolezni in zdravstveno varstvo perutnine. Na Veterinarski fakulteti UL je leta 1988 zaključila magisterij, 1993 pa doktorat. Od leta 2001 vodi Inštitut za perutnino, ptice, male sesalce in plazilce. Ukvarja se predvsem z diagnostiko bolezni perutnine in ptic, razvojem cepiv in testiranji njihove uspešnosti ter dobrobitjo perutnine. Je specialist iz področja zdravstvenega varstva in sistemov reje perutnine v Sloveniji in EBVS® evropski specialist veterinarske znanosti iz področja perutnine (European College of Poultry Veterinary Science – ECPVS). V letih 2002 do 2010 je bila vodja Laboratorija za kužne bolezni perutnine. Aktivna je tudi v Veterinarski zbornici Slovenije, kjer je bila eno mandatno obdobje njena podpredsednica. Od leta 2013 je predsednica Sveta za veterinarstvo. **Pedagoško delo:** Od začetka zaposlitve na Veterinarski fakulteti sodeluje v pedagoškem procesu, leta 2001 je bila habilitirana v naziv docentke za področje Bolezni in zdravstveno varstvo perutnine, kuncev in malih živali, od leta 2015 pa je redna profesorica za področje Bolezni in zdravstveno varstvo živali. V letih 2009 do 2013 je Veterinarski fakulteti UL opravljala funkcijo prodekanje za izobraževanje. **Raziskovalno delo:** epidemiološke raziskave na področju respiratornih in imunosupresivnih virusnih bolezni ptic in perutnine, razvoj novih diagnostičnih metod za detekcijo različnih patogenov. **Bibliografija**: SICRIS izpis obsega preko 350 enot, od tega 70 izvirnih in preglednih znanstvenih člankov.

Olga Zorman Rojs

Biography: Born 1960 in Slovenj Gradec, 1979-1985 - studies at the Biotechnical Faculty, Department of Veterinary medicine at University of Ljubljana (UL). In 1985 she was employed as a young researcher at Veterinary faculty, UL, Institute for health care of poultry. She completed her master and doctoral studies at Veterinary faculty, UL. Since 2001 she has been a head of Institute for Poultry, Birds, Small Mammals and Reptiles. Her professional work is focused mainly on diseases of poultry, development of poultry vaccines and their efficacy, and welfare. She is national specialist of health care of poultry and EBVS® European Specialist in Poultry Veterinary Science. From 2002 to 2010 she was a head of the Laboratory for infectious diseases of poultry. She is an active member of Slovene Veterinary Chamber, where she served as vice president for one term. Since 2013 she has been a president of Veterinary counsel. **Pedagogical work:** Since 1985 she has been actively involved in teaching process at the Veterinary faculty University of Ljubljana, first as an assistant and from 2001 as a lecturer of Diseases and health care of poultry, rabbits and small animals. In 2015 she became a full professor (Diseases and health care of animals). From 2009 to 2013 she served as vice-dean responsible for education on Veterinary faculty, UL. **Research work:** Her research interests are focused mainly on epidemiology of causative agents of respiratory and immunosuppressive diseases of poultry, control of emerging diseases of birds and introduction of new diagnostic methods for detection of avian pathogens. **Bibliography:** The SICRIS list more than 350 units, of which 70 are original scientific and review articles.

Pripravljalni odbor in predsedujoči/ Acting Committee and Chairs

Barlič Maganja Darja
Drofenik Jernej
Guček Matjaž
Jevšnik Mojca
Mičović Elizabeta
Nahtigal Blaža
Posedi Janez
Raspor Peter, vodja
Tomažič Branko

Darja Barlič Maganja

Življenjepis: Rojena 1961 v Trbovljah, 1980–1987 – študij na FNT VTO Farmacija UL. Leta 1987 se je zaposlila kot mlada raziskovalka na Inštitutu Jožef Stefan. Na Biotehniški fakulteti UL je leta 1991 zaključila magisterij, leta 1996 pa doktorat iz področja mikrobioloških znanosti. Leta 1995 se je zaposlila na Veterinarski fakulteti in bila vodja laboratorija za molekularno virologijo do leta 2007. V letu 1997 je bila na Državnem inštitutu za živalske virusne bolezni Tuebingen, Nemčija. Od leta 2007 je dejavna na UP Fakulteti za vede o zdravju na pedagoških in vodilnih mestih. V letih 2010–11 je vodila Center za laboratorijsko dejavnost na Inštitutu za varovanje zdravja (IVZ). **Pedagoško delo:** Redna profesorica in znanstvena svetnica za področje mikrobiologije, predavateljica in nosilka predmetov Mikrobiologija, Farmakologija, Nutracevtika in Higiena in obvladovanje okužb v zdravstvu na študijskih programih Zdravstvena nega in Prehransko svetovanje – Dietetika. **Raziskovanje:** Raziskave s področja virusnih povzročiteljev bolezni pri ljudeh in živalih, molekularna diagnostika in tipizacija virusov in bakterij. Od leta 2014 je vodja programske skupine »Varstvena biologija od molekul do ekosistema«. Vodila je raziskovalne projekte ARRS in sodelovala na domačih (ARRS, CRP, TIA) in mednarodnih projektih (COST, EUREKA, okvirni programi EU). **Bibliografija:** COBISS izpis obsega 383 enot, od tega 78 izvirnih in preglednih znanstvenih člankov. **Dodatne zadolžitve:** članica uredniškega odbora strokovne revije Zdravstveno varstvo.

Darja Barlič Maganja

Biography:: Born in 1961 in Trbovlje, she studied at the UL, Faculty of Farmacy. In 1987 she was employed as a young researcher at Josef Stefan Institute. She finished master studies and her doctoral thesis in the field of microbiological sciences at the Biotechnical Faculty of the UL. In the period from 1995 to 2007 she was employed at the Veterinary Faculty of the UL as a head of the Molecular Virology Laboratory. During the year 1997 she was a visiting researcher at the National Institute of Animal Virus Diseases in Tuebingen, Germany. Since 2007 she has been active at the UP, Faculty of Health Sciences at pedagogical and management positions. In years 2010 and 2011 she worked as a head of Public Health Laboratories at the Institute of Public Health (IPH). Pedagogical work: Full Professor and Scientific Advisor in Microbiology, lecturer and subject holder of Microbiology, Pharmacology, Nutraceutics, Hygiene and Infection control in Health care at study programs Health Care and Nutrition counselling - Dietetics. Research: Research in the field of microbial pathogens in humans and animals, molecular diagnostics and typing of viruses and bacteria. Since 2014 she is leading the research program "Conservation biology from molecules to ecosystems". She also conducted ARRS research projects and participated in domestic (ARRS, CRP, TIA) and international projects (COST, EUREKA, EU Framework Program). Bibliography: The full bibliographic display comprises 383 bibliographic units, of which 78 are original and reviewed scientific articles. **Additional duties**: Member of the editorial board of the professional journal Slovenian Journal of Public Health.

Jernej Drofenik

Življenjepis: Rojen 1972 v Celju, leta 1996 diplomiral na Fakulteti za kemijo in kemijsko tehnologijo Univerze v Ljubljani, nadaljeval podiplomski študij na isti fakulteti in leta 2002 pridobil naziv doktor kemijskih znanosti. V času opravljanja doktorata se je na Danskem, na povabilo danskega nacionalnega instituta Riso, dodatno usposabljal na področju elektrokemije. 1996-2002 je bil mladi raziskovalec na Kemijskem inštitutu Slovenije, od septembra 2002 pa je poklicno pot nadaljeval na Upravi RS za varstvo rastlin in semenarstvo kot podsekretar na sektorju, pristojnem za fitofarmacevtska sredstva. Leta 2010 je postal vodja sektorja za fitofarmacevtska sredstva, ki je deloval znotraj takratne Fitosanitarne uprave Republike Slovenije. Z ustanovitvijo Uprave RS za varno hrano, veterinarstvo in varstvo rastlin UVHVVR je bil konec leta 2012 imenovan za vršilca dolžnosti generalnega direktorja UVHVVR. Aprila 2013 je prevzel vodenje Sektorja za fitofarmacevtska sredstva znotraj UVHVVR, od leta 2015 do konca leta 2019 je bil namestnik generalnega direktorja UVHVVR, dne 16. 3. 2020 je bil ponovno imenovan za vršilca dolžnosti generalnega direktorja UVHVVR.

Jernej Drofenik

Biography: Jernej Drofenik was born in 1972 in Celje. He graduated from the Faculty of Chemistry and Chemical Technology of the University of Ljubljana in 1996 and continued his postgraduate studies at the same faculty and obtained the title of Doctor of Chemical Sciences in 2002. During his postgraduate studies, he received additional training in electrochemistry in Denmark, at the invitation of the Danish National Riso Institute. From 1996 to 2002 he was a young researcher at the Institute of Chemistry of Slovenia, and from September 2002 he continued his career in the Administration of the Republic of Slovenia for Plant Protection and Seed Production as an undersecretary in the sector responsible for plant protection products. In 2010, he became the head of the sector for plant protection products, which operated within the Phytosanitary Administration of the Republic of Slovenia. With the establishment of the Administration of the Republic of Slovenia for Food Safety, Veterinary Sector and Plant Protection (UVHVVR), he was appointed Acting Director General of the UVHVVR at the end of 2012. In April 2013 he took over the management of the Sector for Plant Protection Products within the UVHVVR, from 2015 to the end of 2019 he was Deputy Director General of UVHVVR, on 16 March 2020 he was re-appointed Acting Director General of UVHVVR.

Matjaž Guček

Življenjepis: Rojen 1964 v Celju,. Diplomiral na Veterinarski fakulteti v Ljubljani leta 1990. 1990-1995 veterinar praktik na Veterinarski postaji Laško, 1995-2000 pooblaščeni veterinar na Veterinarskem zavodu Slovenije. 2000-2004 uradni veterinar na Veterinarski upravi RS Območni urad Celje. Od leta 2007 je vodja Sektorja za Živila, krmo in zdravila, najprej na Veterinarski uprava RS, po reorganizaciji leta 2013 pa na Upravi RS za varno hrano, veterinarstvo in varstvo rastlin (UVHVVR). Od marca 2019 je namestnik generalnega direktorja UVHVVR in tudi CVO (Chief Veterinary Officer) za Slovenijo. Od 2003-2006 soorganiziral in vodil več TAIEX dogodkov na temo varne hrane s poudarkom na živilih živalskega izvora. Je kontaktna točka OIE za področje varne hrane živalskega izvora. 2015 in 2016 je sodeloval v mednarodnem projektu Evropske Komisije – Dobre higienske prakse na področju zakola živali. Kot nacionalni ekspert je sodeloval v presojah Urada za zdravje, presoje in analize (bivši FVO) v Braziliji, Ruski federaciji, Srbiji in Avstriji in sicer na področju perutninskega mesa. Ima opravljen tečaj za notranjega presojevalca skladno z ISO 9001:2008 in certifikat za uporabo načel HACCP v praksi. Trenutno je predstavnik RS v Stalnem odboru EK za rastline, živali, krmo in živila – Sekcija biološka tveganja v prehranski verigi. Je tudi član delovnih skupin Sveta EU za področje veterine ter vodij veterinarskih služb. Je član Komisije za zoonoze in Ekspertne skupine za navzkrižno skladnost na Ministrstvu za kmetijstvo, gozdarstvo in prehrano.

Matjaž Guček

Biography: Born 1964 in Celje, Graduated at Veterinary Faculty in Ljubljana in 1990. In 1990 -1995 private veterinary practitioner at the Veterinary practice in Laško, from 1995 to 2000, an authorized veterinarian at the Veterinary Institute of Slovenia. 2000-2004 official veterinarian at the Veterinary Administration of the Republic of Slovenia Regional Office Celje. Since 2007, he is head of the Food, Feed and Veterinary Medicine Division, first at the Veterinary Administration of the Republic of Slovenia, and after the reorganization in 2013, at the Administration od the Republic of Slovenia for Food Safety, Veterinary Sector and Plant Protection (AFSVSPP). In March 2020, he became a deputy director general of AFSVSPP and he was appointed as Chief Veterinary Officer (CVO) of the Republic of Slovenia. Since 2003-2006, he co-organized and led several TAIEX events on food safety with an emphasis on foods of animal origin. It is the focal point of the OIE for the safe of food of animal origin. In 2015 and 2016 he participated in the international project of the European Commission "Share of Best Practice and Slaughter Hygiene". As a national expert, he participated in the audits of the Directorate 'Health and Food Audits and Analysis', (formerly FVO) in Brazil, the Russian Federation, Serbia and Austria in the field of poultry meat. Has passed the internal auditor course in accordance with ISO 9001: 2008 and obtained the certificate for the application of HACCP principles in practice (The Royal Institute of Public Health, UK). He is currently a representative of the Republic of Slovenia in the EC's Standing Committee on Plants, Animals, Feed and Food - Section of Biological Risks in the Food Chain. He is also a member of the Council Working Party of Veterinary Experts and CVOs. He is a member of the Commission for Zoonosis and the Cross-Compliance Expert Group at the Ministry for Agriculture, Forestry and Food.

Mojca Jevšnik

Življenjepis: Rojena 1972 v Celju, 1991–97 – študij na Visoki šoli za zdravstvo, Oddelek za sanitarno inženirstvo UL. Leta 1997 se je zaposlila na Zavodu za zdravstveno varstvo v Celju in v letu 1998 kot asistentka na Visoki šoli za zdravstvo UL, sedaj Zdravstveni fakulteti (ZF). Na Biotehniški fakulteti UL je 2001 zaključila magisterij, 2008 pa doktorat s področja živilstva. V letu 2002 je bila imenovana kot presojevalka standarda ISO 9001 in 2003 vodilne presojevalke sistema HACCP pri SIQ. Je notranja presojevalka sistemov kakovosti IFS in ISO 22000. V obdobju od 2006-08 je bila predstojnica Oddelka za sanitarno inženirstvo, sedaj je članica senata ZF. **Pedagoško delo:** Docentka za področje sanitarno inženirstvo (SI), predavateljica in nosilka predmetov na dodiplomskem študijskem programu SI: Osnove higiene in etika, Higiena objektov in procesov, sonosilka predmetov Komunalna higiena, Tehnologija in varnost živil, Dobre prakse v živilski verigi; sonosilka pri podiplomskih predmetih Novi trendi v SI in Metode vzorčenja. Je mentorica in somentorica pri diplomskih, magistrskih in doktorskih nalogah. Urednica in soavtorica univerzitetnih učbenikov Higiena objektov in procesov in Uvod v varnost in kakovost živil. **Raziskovalno delo:** Raziskave na področju higiene objektov in procesov ter varnosti in kakovosti živil na različnih stopnjah živilske verige. Vodi laboratorij za higieno objektov in procesov. **Bibliografija:** SICRIS izpis obsega 459 enot, od tega 50 izvirnih in preglednih znanstvenih člankov. **Dodatne zadolžitve:** Aktivna članica Zbornice sanitarnih inženirjev Slovenije ter Inštituta za sanitarno inženirstvo. Predsednica Certifikacijskega odbora TÜV SÜD Sava d.o.o.

Mojca Jevšnik

Biography: Born 1972 in Celje, 1991-1997 Bachelor study of sanitary engineering at University of Ljubljana. In 1997 she was employed at the Health Care Institute in Celje and in 1998 as an assistant at the University of Ljubljana's College of Health Studies. At the Biotechnical Faculty, UL she was graduated in 2001 and a PhD in 2008 in the field of food. In 2002, she was appointed as an auditor of the ISO 9001 and 2003 leading auditor of the HACCP system at SIQ. She is an internal auditor of quality systems IFS and ISO 22000. From 2006 to 2008 she was a Head of the Sanitary Engineering Department. **Pedagogical work:** Assistant professor in the field of sanitary engineering, lecturer at the undergraduate sanitary engineering study program - subjects: Fundamentals of Hygiene and Professional Ethics, Hygiene of Premises and Processes, Technology and Food Safety, Good Practices in the Food Chain; postgraduate subjects: New trends in Sanitary Engineering and Sampling methods. She is a mentor and co-mentor at graduation, master and doctoral theses. Editor and co-author of university textbook. **Research work:** Research in the field of hygiene of premises and processes and the food safety and quality in food supply chain. She is a Head of the Laboratory for the Hygiene of Premises and Processes. **Bibliography:** In total 459 units among which 50 original and review scientific papers. **Additional assignments**: Active member of the Chamber of Sanitary Engineers of Slovenia and the Institute of Public and Environmental Health. Chairman of the Certification Committee TÜV SÜD Sava d.o.o.

Elizabeta Mičović

Življenjepis: Rojena 1960 v Kopru, 1979–1984 – študij na Biotehniški fakulteti, Oddelek za živilstvo na Univerzi v Ljubljani. Leta 1984 se je zaposlila v Mercator Embi in kasneje v Žitu Gorenjki kot živilska tehnologinja, vodja razvoja in vodja HACCP tima. Na Biotehniški fakulteti Univerze v Ljubljani je 2003 zaključila magisterij, 2011 pa na Fakulteti za varnostne vede, Univerze v Mariboru doktorat s področja varstvoslovja. V letu 2002 je postala zdravstvena inšpektorica, 2005 državna uslužbenka na Ministrstvu za zdravje in leta 2010 na Ministrstvu za kmetijstvo, gozdarstvo in prehrano. Od leta 2016 deluje na področju odnosov z javnostmi, posebej s komuniciranjem tveganj na področju varne hrane in krme. **Pedagoško delo:** Leta 2018 habilitirala na Univerzi v Mariboru, na Fakulteti za kmetijstvo in biosistemske vede, kot predavateljica za program Varnost hrane v prehrambni verigi - nosilka dveh predmetov: Komunikacija in Označevanje/oglaševanje živil. Od leta 2006 za Evropsko komisijo redno predava v programih TAIEX, na različnih področjih zagotavljanja varne hrane. Od leta 2014 je kot predavateljica vključena v program usposabljanja BTSF na področju izvajanja dobre higienske prakse in HACCP. **Raziskovalno delo:** Raziskave na področju kakovosti živil, razvoja funkcionalnih izdelkov, ocene izpostavljenosti aditivom, zagotavljanja varne hrane in pravic potrošnikov, varstvoslovja: viktimologije (potrošnik kot morebitna žrtev nepoštenih praks). **Bibliografija:** SICRIS izpis obsega 44 enot, od tega 6 izvirnih in preglednih znanstvenih člankov.

Elizabeta Mičović

Biography: Born 1960 in Koper, 1979-1984 - studies at the Biotechnical Faculty, Department of Food Science at the University of Ljubljana. In 1984 she was employed at Mercator Emba and later in Žito Gorenjka as a food technologist, development manager and head of the HACCP team. She completed her MA in Biotechnical Faculty at the University of Ljubljana in 2003, and in 2011 she received a doctorate in the field of security in the Faculty of Security Sciences, University of Maribor. In 2002, she became a health inspector, a 2005 civil officer at the Ministry of Health, and in 2010 at the Ministry of Agriculture, Forestry and Food. Since 2016 he has been working in the field of public relations, especially by communicating risks in the field of safe food and feed. **Pedagogical work:** In 2018 she habilitated at the University of Maribor, Faculty of Agriculture and Biosystems, as a lecturer in the Food Safety Program in the food chain - the holder of two subjects: Communication and labeling / advertising of foodstuffs. Since 2006, she regularly lectures on the TAIEX programs in various fields of food safety for the European Commission. Since 2014 she has been involved in the BTSF training program in the field of good hygiene practice and HACCP as a lecturer. **Research work:** Research in the field of food quality, development of functional products, estimates of exposure to additives, food safety and consumer rights, security science: victimology (consumer as potential victim of unfair practices). **Bibliography:** The SICRIS list 44 units, of which 6 are original scientific and review articles.

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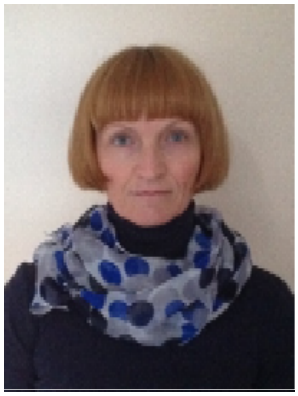
Blaža Nahtigal



Rojena 1965 v Ljubljani, 1990 zaključila diplomski študij, leta 1996 magistrski študij in 2004 doktorski študij na UL, Biotehniški fakulteti, Oddelku za živilsko tehnologijo. 1998 zaključila program izpopolnjevanja pedagoško andragoške izobrazbe na UL, Filozofska fakulteta. 1990 se je zaposlila na Biotehniški fakulteti, Oddelku za živilsko tehnologijo UL kot mlada raziskovalka in asistentka, 1995 na IVZ Višnja Gora kot srednješolska učiteljica, 2005 na Ministrstvu za obrambo kot višja svetovalka za prehrano. Od leta 2006 je zaposlena na Ministrstvu za kmetijstvo, gozdarstvo in prehrano, sedaj kot sekretarka na Upravi za varno hrano, veterinarstvo in varstvo rastlin, kjer opravlja naloge EFSA informacijske točke in Codex kontaktne točke. **Pedagoško delo:** Asistentka za področje analize živil, srednješolska učiteljica za področja prehrane in varnosti živil, vabljena predavateljica za predstavitve vsebin v povezavi z delovanjem EFSA in Codex Alimentraius, somentorica pri diplomskih in magistrskih nalogah. **Raziskovalno delo:** Raziskave na področju analize živil in varnosti hrane. **Bibliografija:** COBISS izpis obsega 160 enot. **Dodatne zadolžitve:** Članica Slovenskega prehranskega društva.

Biography: Born in 1965 in Ljubljana, graduated in 1990 (Determination of the total acidity of honey by the potentiometric titration technique), received a M.Sc. degree in 1996 (A comparison between the chromatographic and spectrophotometric method of establishing phosphates in poultry meat products) and doctoral degree in 2004 (Contents of fatty acids, cholesterol and cholesterol oxides in ordinary and omega-3 enriched eggs, prepared in different ways) at the University of Ljubljana, Biotechnical Faculty, Department of Food Technology. In 1998 she completed the postgraduate complementary education, pedagogic-andragogic training program at the UL, Faculty of Philosophy. In 1990, she was employed at the UL, Biotechnical Faculty, Food Technology Department as a young researcher and assistant, 1995 at the IVZ Višnja Gora as a high school teacher in the field of nutrition and food safety, 2005 at the Ministry of Defense as a Senior Adviser for nutrition. Since 2006, she has been employed at the Ministry of Agriculture, Forestry and Food, now as a secretary at the Administration for Food Safety, Veterinary Sector and Plant Protection, where she performs the tasks of the EFSA Focal Point and Codex Contact Point. **Pedagogical work:** Assistant at the field of food analysis, high school teacher in the field of nutrition and food safety, invited lecturer for issues related to EFSA and Codex Alimentarius, co-mentor at the graduation and master theses. **Research work:** Research in the field of food analysis and food safety.**Bibliography:** The COBISS printout comprises 160 units.**Additional responsibilities:** Member of the Slovene Nutrition Society.

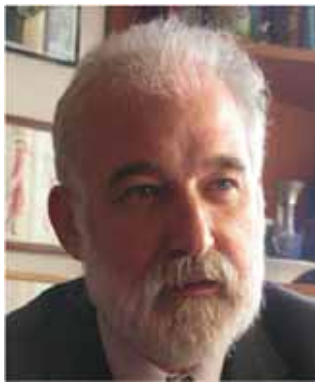
Janez Posedi

Življenjepis: Rojen leta 1967 v Frankfurtu, Zvezna Republika Nemčija. Študiral je na Univerzi v Ljubljani, kjer je na Veterinarski Fakulteti pridobil naziv doktor veterinarske medicine (1994). Na Univerzi v Ljubljani je pridobil tudi naziva Magister znanosti iz področja veterinarske mikrobiologije (2000) in Doktor znanosti na področju Parazitologije (leta 2003). Od leta 1994 je zaposlen na Veterinarski fakulteti Univerze v Ljubljani. Tam se je naprej ukvarjal s tuberkulozo živali nato s parazitologijo. Bil je namestnik predstojnika Inštituta za mikrobiologijo in parazitologijo (od 1.12.2009 do 15.3.2015), vodja Nacionalnega referenčnega laboratorija za parazite (od 1.5.2007 do 15.3.2015), vodja Laboratorija za parazite na Enoti za diagnostiko kužnih in drugih bolezni na Nacionalnem veterinarskem inštitutu - NVI (od 1.8.2008 do 15.3.2015), vodja Enote za parazitologijo na Inštitutu za mikrobiologijo in parazitologijo (od 12.11.2004 do 15.3.2015), vodja Nacionalnega referenčnega laboratorija za parazite (od 1.5.2007 do 15.3.2015), vodja Enote za parazitologijo na Inštitutu za mikrobiologijo in parazitologijo (od 12.11.2004 do 15.6.2015) ter vodja Sprejemnice vzorcev na Nacionalnem veterinarskem inštitutu - NVI (od 1.1.2003 do 1.10.2005). Trenutno dela kot veterinar specialist v parazitološkem laboratoriju. Od marca 2015 do marca 2020 je bil Generalni direktor Uprave Republike Slovenije za varno hrano, veterinarstvo in varstvo rastlin. **Bibliografija:** SICRIS izpis obsega 59 enot, od tega 15 izvirnih in preglednih znanstvenih člankov.

Janez Posedi

Biography: Born in 1967 in Frankfurt, Federal Republic of Germany. He studied at the University of Ljubljana, where he obtained the degree of Doctor of Veterinary Medicine (1994) at the Faculty of Veterinary Medicine. He also obtained the title of Master of Science in Veterinary Microbiology (2000) and Doctor of Science in Parasitology (2003) at the University of Ljubljana. Since 1994 he has been employed at the Faculty of Veterinary Medicine, University of Ljubljana. There he further dealt with animal tuberculosis then parasitology. He was the Deputy Head of the Institute of Microbiology and Parasitology (from 1 December 2009 to 15 March 2015), Head of the National Reference Laboratory for Parasites (from 1 May 2007 to 15 March 2015), Head of the Laboratory for Parasites at the Unit for Diagnosis of Infectious and Other Diseases. National Veterinary Institute - NVI (from 1.8.2008 to 15.3.2015), Head of the Parasitology Unit at the Institute of Microbiology and Parasitology (from 12.11.2004 to 15.3.2015), Head of the National Reference Laboratory for Parasites .2015), Head of the Unit for Parasitology at the Institute of Microbiology and Parasitology (from 12.11.2004 to 15.6.2015) and Head of the Sample Receiver at the National Veterinary Institute - NVI (from 1.1.2003 to 1.10.2005). He currently works as a veterinarian specialist in a parasitology laboratory. From March 2015 to March 2020, he was the Director General of the Administration of the Republic of Slovenia for Food Safety, Veterinary Medicine and Plant Protection. Bibliography: The SICRIS report comprises 59 units, of which 15 are original and reviewed scientific articles.

Peter Raspor



Življenjepis: Rojen v Dolgi poljani, 1954. Maribor: Pekovska šola (1971), živilska tehnična šola (1975). Ljubljana: Živilska tehnologija, BF Univerza v Ljubljani. Diploma na živilstvu (1983) Zagreb: Doktorat s področja biotehnologije (1987) London: Institute Labatt 1989 podoktorska specializacija. Docent za področje biotehnologije in industrijske mikrobiologije (1989), izredni profesor (1992), redni profesor (1996). Ustanovitev katedre za biotehnologijo (1992) **Dela**: Mlinotest Ajdovščina (1969-86), Labatt (1987-89), Univerza v Ljubljani (1989-2013). Univerza na Primorskem (2014-16). **Pedagoško delo:** Postavil je podiplomski študij biotehnologije na UL (1994); dodiplomski študij biotehnologije na BF (2004). Mentoriral je 55 disertacij, 18 magisterijev, 145 diplom, med njimi ducat nagrajencev. **Raziskovalno delo:** Vodil je več deset projektov: živilstvo, industrijsko mikrobiologijo in biotehnologijo ter varnost živil. **Bibliografija:** SICRIS obsega 1830 enot, 215 znanstvenih člankov, preko 100 vabljenih predavanj **Nagrade in priznanja**: Za svoje delo je med drugim prejel tri častne doktorate in tri najvišje državne nagrade. **Drugo:** Sodeloval pri postavitvi LUI inkubator na UL, pomagal pri nastanku 5 biotehnoloških podjetij. Vključen v sisteme kakovosti ISO in v mednarodne presoje kakovosti v visokem šolstvu. Snoval in vodil je sprejetje dveh deklaracij: o mikrobiologiji leta 2004, in deklaracijo o hrani, prehrani in tehnologiji leta 2008. Postavil je tri kongresne mreže, ki so začele svojo pot v Ljubljani, CEFood 2002, FEMS 2004 in EFFoST 2008.

Peter Raspor

Biography:: Born in Dolga Poljana, 1954. Maribor: Bakery school (1971), food technical school (1975). Ljubljana: Food Technology, BF,UL Graduate diploma in food technology (1983), Zagreb: Doctorate in Biotechnology (1987) Faculty of Food Technology and Biotechnology, London Labatt Institute (1989). Postdoctoral specialization Assistant Professor in Biotechnology and Industrial Microbiology (1989), associate professor (1992), full professor (1996). Establishment of the Department of Biotechnology (1992). **Working activity**: Mlinotest Ajdovščina (1969-86), Labatt (1987-89), University of Ljubljana (1989-2013). University of Primorska (2014-2016). **Pedagogical work**: He established post-graduate biotechnology study at UL (1994); undergraduate biotechnology study at BF (2004). He mentored 55 dissertations, 18 master's degrees, 145 diplomas, among them a dozen of prize winners. **Research work**: He has led dozens of projects. food, industrial microbiology and biotechnology, and food safety. **Bibliography:** SICRIS lists 1830 bibliographic units, 215 scientific articles, numerous expert articles, a few dozen book chapters, several patents, over 100 invited lectures. **Awards and recognitions:** He has received three honorary doctorates and three top state awards for his work. **Additionaly**: He helped set up the LUI incubator at UL, 5 biotech companies. He was involved with ISO and international audits in higher education for research and teaching. He established and led the adoption of two declarations: on microbiology in 2004, and a declaration on food, nutrition and technology in 2008. He set up three congressional networks that began their journey in Ljubljana, CEFood 2002, FEMS 2004 in EFFoST 2008.

Branko Tomažič

Življenjepis: Rojen 1961 v Postojni, v številni kmečki družini stanujoč Vrhpolje pri Vipavi. Po srednji kmetijski šoli Maribor, je nadaljeval študij na Biotehniški fakulteti, Oddelek za živinorejo Univerza v Ljubljani. Leta 1984 se je zaposlil v takratni kmetijski zadrugi Vipava, kot svetovalec. Kmalu je prevzel vodenje farme Vipava in jo uspel pripeljati v bok najboljših v Sloveniji. Začel je biti aktiven v KS Vrhpolje in nato tudi v takratni skupščini občine Ajdovščina, kot predsednik Izvršnega sveta. Nato je vodil tajništvo novoustanovljene občine Vipava. Leta 1996 je bil izvoljen v DZ RS za poslanca. Po mandatu je vodil KZ Vipava, od leta 2000 pa kmetuje na domači kmetiji. Zaradi težav v kmetijstvu, je večji del svojega dela namenjal kmetijstvu in tudi v KGZS bil v dveh mandatih podpredsednik. Kot predstavnik kmetov v DS RS v tem mandatu opozarja na težave in probleme, ter na nujne spremembe za povečanje samooskrbe s hrano. Je zagovornik večje kontrole na sledljivosti in pravilni označbi hrane, ki pride preko meje na Slovenski trg. Slovenski javnosti poskuša prikazati, da je potrebno zveri omejiti na ustrezno število, ki ga Slovenski prostor premore za zagotavljanje varnosti in sobivanja.

Branko Tomažič

Biography: Born in 1961 in Postojna, living in a large peasant family in Vrhpolje near Vipava. After the Secondary Agricultural School in Maribor, he continued his studies at the Biotechnical Faculty, Department of Animal Husbandry, University of Ljubljana. In 1984, he joined the then agricultural cooperative Vipava as a consultant. He soon took over the management of the Vipava farm and managed to bring it alongside the best in Slovenia. He became politicaly active in Vrhpolje and consequently in the assembly of the municipality of Ajdovščina, as the president of the Executive Council. He then headed the secretariat of the newly established municipality of Vipava. In 1996 he was elected a Member of the National Assembly of the Republic of Slovenia. After his term of office, he headed KZ Vipava, and since 2000 he has been farming on a home farm. Due to problems in agriculture, he devoted most of his work to agriculture and was also vice-president of Agriculture chamber of Slovenia for two terms. As the representative of farmers in the National councel of the Republic of Slovenia in this term of office, he draws attention to problems and problems, and to the necessary changes to increase self-sufficiency in food supply. He is an advocate of greater control over the traceability and correct labeling of food that comes across the border to the Slovenian market. It tries to show the Slovenian public that it is necessary to limit carnivores to the appropriate number that the Slovenian space has to ensure security and coexistence.

Varljiva varnost

Varnost išče svoj pristan.
Kje ga išče?
Kje ga najde?
Odgovor iščemo vsak dan.

Stroke se borijo.
Izkušnje se plodijo.
Kapital pa le tišči,
da rešitev zaživi.

Znanost išče in rešuje,
o hrani premišljuje,
a znanje iz davnine
stresa znanosti strmine.

Med običajnimi ljudmi,
večina meni, da vse prav stori,
kar hrane tiče se in varnosti.
Važno je, da se dobro jé in živi.

V tej nenasitni vnemi
je vsak nad vsemi.
Varnost redke res skrbi-
dokler se ne zgodi!

In zgodi se
in potem se s prstom kaže,
mnogokrat nesramno laže,
da sebe bi na varno dal.

Takrat se varnost le pojavi
in ve se, varno ni nevarno
varnosti želimo vsi.
A kdo naj plača te skrbi?
(Peter Raspor, 1. 6. 2020)