PERSONAL INFORMATION:

Marko Kebert, PhD

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Nationality Serbian
Marital status Single

EDUCATION:

2008-2014 PhD in biochemistry, Faculty of Science, Department for chemistry, biochemistry and environmental protection, University of Novi Sad, Novi Sad, Serbia
Thesis title: "**Biochemical and physiological characterization of poplar clones (*Populus spp.*) during nickel, copper and cadmium phytoextraction processes**"

Mentors: Prof. dr Neda Mimica Dukić and prof. dr Dubravka Štajner

2007-2009 MSc in biochemistry, Faculty of Science, Department for chemistry, biochemistry and environmental protection, University of Novi Sad, Novi Sad, Serbia
Thesis title: "**Comparative electron spin resonance (ESR) and spectrophotometric study of antioxidant activity of some lignicolous fungi on DPPH as a model system**"

2003-2007 BSc in chemistry-biochemistry, Faculty of Science, Department for chemistry, biochemistry and environmental protection, University of Novi Sad, Novi Sad, Serbia
Thesis title: "**Antioxidant screening of lignicolous fungi**"

WORK EXPERIENCE:

07/2008-now, Research associate at **Institute of lowland forestry and environment (ILFE)** of the University of Novi Sad.
During 10 years of working experience I was enrolled in projects related to examination of plant responses on abiotic (heavy metals, drought, salt, UV, etc.) or biotic (mycorrhiza, pathogenic fungi and insects) stress factors. I became experienced with methodologies for tracking of enzymes' activities and kinetics as well as determination of oxidative stress parameters such as radical scavenging capacities in different plant (*Populus, Salix, Quercus, Fagus, Arabidopsis* etc.*)* and fungi species. I attained considerable experience in analytical techniques such as **atomic absorption spectrophotometry (AAS)** equipped with graphite tube atomizer (GTA) and vapor generator accessory (VGA), **gas chromatography coupled with mass spectrometry (GC/MS)**, **high performance liquid chromatography (HPLC) paired with diode array detection (DAD) and/or fluorometric detection (FD)** as well as **tandem mass spectrometric detector (MS-MS), CHNS elemental analysis**, **multiscan-plate reader**, **portable gas exchange systems, polymerase chain reaction (PCR) thermocyclers and microchip electrophoresis system.** I obtained significant experience in using microwave assisted digestion system as well as solid phase (micro) extraction-SP(M)E as preparation techniques. I have significant experiences with **soil analysis** such as determination of soil texture and granulometric composition, determination

of approximate humus content by using C/N ratio gained by CHN analysis or volumetric analysis as well as determination of macro and microelements by using AAS/GTA system.

10/2007-09/2008 **Assistant professor on subject General chemistry at Department of biology, Faculty of Science, University of Novi Sad.**
I have been enrolled in teaching process, conduction and organization of laboratory and experimental work as well as demonstration of chemical experiments for undergraduate students of biology in scope of subject General chemistry. I attain valuable teaching and presentation skills since I was also responsible for preparing and conducting of students' seminars, written exams preparation and evaluation, trainings for laboratory equipment and trainings related to safety issues and protection during the laboratory work.

04/2007-10/2007 Exchange student at Technical University, TU Graz, Department for environmental biotechnologies, worked on project: "**Pectin based bioresponsive polymers**" where I obtained elementary laboratory skills for working in microbiological laboratory. These skills include preparation of microbiological culture media (liquid and solid), isolation of soil microorganisms (MO) and obtaining of pure cultures. Furthermore, I have experience with cultivation of microorganisms (anaerobic and aerobic) and maintenance of culture collections as well as with enumeration of different soil MO groups (total number of bacteria / fungi / yeast / algae).

PARTICIPATION IN PROJECTS:

FP7-REGPOT-2007-3: "**Strengthening of research capacity for poplar and willow multipurpose plantation growing in Serbia**" (STREPOW) (2008-2011)
Role: During the project I attended set of workshops (in Italy and Hungary) and field trips related to topics of phytoremediation techniques and short rotation coppices. Participated in organizational board for three annual meeting conferences as well as in editorial board for "STREPOW" Proceedings. In scope of this project attained licensed and intensive trainings for working on **atomic absorption spectrophotometer (AAS) and gas chromatograph with mass spectrometry detection (GC/MSD).**

IPA Cross-border Co-operation programme Hungary- Serbia "**Oxidative stress tolerance in plants: from models to trees-OXIT**" HUSRB/1002/214/036 (2011-2013)
Role: Participated in project proposal writing and creation of experiment designs as well as equipment procurement. Attained trainings for **multiNA electrochip electrophoresis**, **NanoDrop** spectrophotometer and **Mulitiscan plate reader**. Obtained considerable experience in tracking antioxidant capacities of plant extracts by using **DPPH, ABTS, FRAP** biochemical tests as well as assays for **radical scavenger capacities against NO, OH and superoxide anion radicals**. Obtained plentiful of experience in tracking enzymes' kinetics and determination of **enzymes activities** especially related to glutathione metabolism, **glutathione reductase (GR), glutathione peroxidase (GPx), gluthation-S-transfrerase (GST), but also for superoxide dismutase (SOD), catalase (CAT), guiacol peroxidase (POD), nitrite reductase (NR) as well as enzymes related to polyphenolics metabolism, phenylalanine ammonium lyase (PAL) and polyphenol oxidase (PPO).** Obtained considerable experience in quantification assays for **glycine betaine, free proline, antocyanins, condensed tannins, total phenolics and flavonoids, oxidized and reduced glutathione.**
Interreg IPA Cross-border Co-operation programme Hungary- Serbia "Natural selfness-NATESS" IPA HUSRB/1602/31/0242 (2018-2021)
Role: Participated in project proposal writing, sampling as well as equipment procurement. Responsible for application of different methodologies related to qualitative and semiquantitative analysis of **volatile organic compound (VOC)** blends emitted by trees by using head space/solid phase micro extraction system and gas chromatography coupled with mass spectroscopic detection (HS-SPME-GC-MS).

ICP Forest project (International Co-operative programme on assessment and monotoring of air pollution effects on forests) at level II (2010-2019).
In scope of the project, I was responsible for chemical analysis of inorganic parameters (pH, conductivity, nitrates, chlorides, phosphates, ammonium ions, heavy metals amounts etc.) in precipitation, leaves and soil matrices. Responsible for delivery of chemical analysis reports, chemicals storage and maintenance of the analytical instruments.
National projects:
"Biosensing Technologies and Global System for Long-Term Research and Integrated Management of Ecosystems" (III43002) financed by the Ministry of Education and Science of the Republic of Serbia within the framework of integrated and interdisciplinary research for the period 2011-2019.

"Studying climate change and its influence on the environment: impacts, adaptation and mitigation" (III 43007) financed by the Ministry of Education and Science of the Republic of Serbia within the framework of integrated and interdisciplinary research for the period 2011-2019.

INDIVIDUAL GRANTS AND TRAINING SCHOOLS:

Funded by Coimbra Group Scholarship, European neighborhood section, completed research project entitled "**Occurrence of climatically active molecule- dimethylsulfoniopropionate (DMSP) in woody plant species determined by proton transfer reaction-mass spectrometry PTR-MS**" at laboratory for plant physiology at Centre for Life Sciences at University of Groningen, The Netherlands in period from 1st November- 23rd December, 2017.

In scope of COST Action FA1405 "Using three-way interactions between plants, microbes and arthropods to enhance crop protection and production" completed a short-term scientific mission (STSM) entitled "**Mycorrhization effects on plant-insect interactions in carnivorous plants**" at Faculty of Science, Department for Organic chemistry, Laboratory for allelopathy, Cadiz, Spain starting from 19th September 2016 until 27th November 2016.

In scope of COST action FA1206 "Strigolactones: biological roles and applications-STREAM" completed a short-term scientific mission (STSM) entitled "**Search for stimulants for the germination of parasitic plants from *Vicia faba* roots**" at Faculty of Science, Department for Organic chemistry, Laboratory for allelopathy, Cadiz, Spain in period from 12th May-23th July, 2016.

Funded by Coimbra Group Scholarship, European neighborhood section, completed a mini research project entitled "**The impact of sulfate salinity on sulfur metabolism and accumulation of dimethylsulfoniopropionate (DMSP) in maize and sugarcane**" at laboratory for plant physiology at Centre for Life Sciences at University of Groningen, The Netherlands in period of 1st February-1st May, 2016.

In the framework of COST Action ES1203 ("Enhancing the resilience capacity of sensitive mountain forest ecosystems under environmental change SENSFOR) completed a short term scientific mission entitled "**Altitude effect on the foliar phenolics composition in *Fagus sylvatica* on five Serbian mountains**" in period from 14th September-9th October, 2015. at Natural

Resources Institute Finland- LUKE in Rovaniemi, Finland.

In the scope of COST Action FP1304 “Towards robust projection of European forests under climate change” (PROFOUND) completed short term scientific mission titled "**Modelling of altitude dependent drought stress estimated by biochemical markers such as polyamines (PAs) and glycin-betain (GB) in beech leaves**" at University of Bologna, Department of Biological, Geological and Environmental Sciences, Bologna, Italy in period from 6th April-30th May, 2015.

In the framework of COST Action ES1203 (“Enhancing the resilience capacity of sensitive mountain forest ecosystems under environmental change SENSFOR) completed short term scientific mission entitled "**Altitude-dependent photo-oxidative stress in beech leaves**" at University of Bologna, Department of Biological, Geological and Environmental Sciences, Bologna , Italy in period from 6th October-15th November, 2014.

In scope of COST action FP1106: "STReESS - Studying Tree Responses to extreme Events: a SynthesiS" completed short term scientific mission titled “**Polyamines (Put, Spd and Spm) and plant hormones (IAA and ABA) and as the biomonitors of drought strees and heat shock in oak provenance tests**” in period from 22nd April- 03th June, 2013. at University of Bologna, Department of Biological, Geological and Environmental Sciences, Bologna, Italy.

In scope of COST action FP0903: "Climate Change and Forest Mitigation and Adaptation in a Polluted Environment"(MAFor) completed short term scientific mission titled “**Changes in levels of plant hormones (IAA and ABA) as the indicators of heavy metal pollution in poplar plant species**” at CNR-IBIMET Institute of biometeorology in Bologna, Italy in period from 20th September-3rd November, 2012.

Attended **EvolTree** workshop entitled “**Physiological and Molecular Adaptation to Climate Change in Forest Trees”** that was held at Weizmann Institute in Rehovot, Israel, in period from 25th February-3rd March, 2018.

AttendedTraining School entitled: “**Plant hormones and metabolites: Techniques and data processing”** in scope of COST Action FA1405 (**“**Using three-way interactions between plants, microbes and arthropods to enhance crop protection and production”) at Department Of Ciencias Experiementales Y Del Medio Natural, Universitat Jaume I, Castellon, Spain in period from 11th-14th September 2017.

Attended Training School on **Modeling in Systems Biology** in scope of COST FA1405 Annual Meeting at National Institute of Biology in Ljubljana from 3rd to 5th February 2017.

Completed licensed training of **NMR-(nuclear magnetic resonance) imaging**-level I conducted by representatives of Agilent technologies at Institute of biomolecules (IMBIO), University of Cadiz, Spain, 17th to 22nd July, 2016.

Attended **School of chromatography and mass spectrometry** at Research Station Petnica, Serbia from 1st to 10th October 2014.

Attended the Summer training course on parasitic plants **"Role of strigolactones (SLs) in parasitic plant management**" that was held in Cadiz, Spain in period from 1st to 8th July, 2014.

SCIENTOMETRIC DATA:

Publications in international scientific journals: 16

Publications in national scientific journals: 20
Conference proceedings and book of abstracts: 30

PUBLICATIONS:

Vuksanović V., Kovačević B., **Kebert M**., Katanić M., Pavlović L., Kesić L., Orlović S. (2019). Clone specificity of white poplar (*Populus alba* L.) acidity tolerance *in vitro*. *Fresenius Environmental Bulletin*, 28 (11), 8307-8313.

Stojnić S., Kovačević B., **Kebert M.**, Vaštag E., Bojović M., Stanković-Nedić M., Orlović S. (2019) The use of physiological, biochemical and morpho-anatomical traits in tree breeding for improved water-use efficiency of *Quercus robur* L. *Forest systems* 28 (3) DOI:10.5424/fs/2019283-15233

Arsenov D., Župunski M., Borišev M., Nikolić N., Pilipović A., Orlović S., **Kebert M**, Pajevic S. (2019) Citric acid as soil amendment in cadmium removal by Salix viminalis L., alterations on biometric attributes and photosynthesis, *Int J Phytoremediation.*31:1-11. DOI: 10.1080/15226514.2019.1633999.

Stojnić S., **Kebert M**., Drekić M., Galić Z., Kesić L, Tepavac A., Orlović S. (2019) Heavy Metals Content in Foliar Litter and Branches of *Quercus petraea* (Matt.) Liebl. and *Quercus robur L*. Observed at Two ICP Forests Monitoring Plots. *Southeast Eur for* 10 (2): DOI: https:// doi.org/10.15177/seefor.19-11

Krašić D., Groner E., Mészáros M., Nikolić T., Radišić D., Milić S., **Kebert M.**, Milić D., Vujić A., Galić Z. (2018) Riverine wood-pasture responds to grazing decline *Ecological Research* 33 (1):1-11

Ausma T., **Kebert M.**, Stefels J., De Kok L.J. (2017) DMSP: Occurrence in Plants and Response to Salinity in *Zea mays* Chapter in: Sulfur Metabolism in Higher Plants, Springer https://link.springer.com/chapter/10.1007/978-3-319-56526-2_8

Kebert M., Rapparini F., Neri L., Bertazza G., Orlović S., Biondi S. (2016) Copper-induced responses in poplar clones are associated with genotype- and organ-specific changes in peroxidase activity and proline, polyamine, ABA, and IAA levels" *Journal of Plant Growth regulation* DOI 10.1007/s00344-016-9626-x

Rašeta, M., Karaman, M., Jakšić, M., Šibul, F., **Kebert, M.**, Novaković, A., Popović, M. (2016) Mineral composition, antioxidant and cytotoxic biopotentials of wild-growing Ganoderma species (Serbia): *G. lucidum* (Cutis) P. Karst versus *G. applanatum* (Pers.) Pat. *International Journal of Food Science and Technology* https://doi.org/10.1111/ijfs.13243

Stojnić S, Pekeč S, **Kebert M**, Pilipović A, Stojanović D, Stojanović M, Orlović S. (2016) Drought effects on physiology and biochemistry of pedunculate oak (*Quercus robur L.*) and hornbeam (*Carpinus betulus L.*) saplings grown in urban area of Novi Sad, Serbia. *South-east Eur for*, 7 (1): 57-63. DOI: http:// dx.doi.org/10.15177/seefor.16-03

Stojnić S., Orlovic S., Miljkovic D., Galić Z., **Kebert M**., Wuehlisch G. (2015) Provenance plasticity of European beech leaf traits under differing environmental conditions at two Serbian common garden site *Eur J Forest Res* DOI 10.1007/s10342-015-0914-y

Borišev M., Pajević S., Nikolić N., Orlović S., Župunski M., Pilipović A. **Kebert**

M. (2015) Magnesium and iron deficiencies alter Cd accumulation in *Salix viminalis* L. *International Journal of Phytoremediation*, DOI: 10.1080/15226514.2015.1073670

Katanić M., Kovacevic B., Djordjevic B., **Kebert M**., Pilipovic A., Klasnja B., Pekec S. (2015) Nickel Phytoremediation Potential of White Poplar Clones Grown in Vitro. *Romanian biotechnological letters*, 20 (1): 10085-10096.

Katanić M, Orlović S, Grebenc T, Kovačević B, **Kebert M**, Matavulj M, Kraigher H. (2015) Mycorrhizal Fungal Community of Poplars Growing on Pyrite Tailings Contaminated Site near the River Timok. *South-east Eur for*, 6 (1): 14-18 DOI: http://dx.doi.org/10.15177/seefor.14-18

Rakić M., Karaman M. A., Forkapic S. M., Hansman J., **Kebert M**., Bikit K. I., Mrdja D.S.(2014) Radionuclides in some edible and medicinal macrofungal species from Tara Mountain, Serbia, *Environmental science and pollution research*, 21 (19): 11283-11292

Trudić B., **Kebert, M.** Popović B., Štajner D., Orlović, S., Galović V., Pilipović A. (2013) The effect of heavy metal pollution in soil on Serbian poplar clones, *Šumarski list*, 5-6:287-296

Kovačević B., Orlović S., **Kebert M.,** Miladinović D., Katanić M., Kovincić J. (2013) Lead tolerance and accumulation in white poplars cultivated *in vitro*, *South-east Eur for* 32: 3-12.

Štajner, D., Orlović, S., Popović, B., **Kebert, M.,** Stojnić, S., Klašnja, B. (2012) Chemical parameters of oxidative stress adaptability in beech. *Journal of Chemistry*, doi:10.1155/2013/592695.

Trudić, B., **Kebert, M.**, Popović, B. M., Štajner, D., Orlović, S., Galović, V. (2012) The level of oxidative stress in poplars due to heavy metal pollution in soil. *Baltic Forestry* 18 (2):214- 227

Borišev M., Pajevic S.,Nikolic N., Krstic B., Zupanski M**.,** **Kebert M**., Pilipovic A., Orlović S. (2012) Response of *Salix alba L*. to heavy metals and diesel fuel contamination *Afr. J. Biotechnol*. 11, 14313-14319

Štajner D., Orlović S., Popovic B. M., **Kebert M.**, Galić Z. (2011) Screening of drought oxidative stress tolerance in Serbian melliferous plant species *Afr. J. Biotechnol.* 10, 1609-1614

Karaman M., Kaišarević S., Somborski J., **Kebert M.**, Matavulj M. (2009) Biological activities of the lignicolous fungus *Meripilus giganteus* (pers.: pers.) Karst. *Arch. Biol. Sci*., 61, 853-861

Orlović S., Andrašev S., Rončević S., Galić Z., **Kebert M**., Rotkin O. New willow cultivar "DRINA" No 0002765, Republic of Belarus, Inspection for cultivar investigation, 2012.

Conference proceedings and book of abstracts

Kebert M., Vuksanovic V., Rial Cumbera C., Macias Domingez F. A. Igartuburu J. M. Role of volatile organic compounds (VOC) in discrimination of prey and pollinators in carnivorous plants. Phytobiomes and plant health form basic to application, Thessaloniki, Greece, 23-25th January 2019, 12 p.

Kebert M., Vuksanovic V., Markovic M., Katanic M., Orlovic S., Stefel J., De Kok L. Occurrence and Quantification of Sulfur and Nitrogen Compatible Solutes in Different Woody Plant Species. Book of Abstracts of 8th Edition of

The International Symposium Forest and Sustainable Development, Brașov, Romania, 25-27th October 2018, 40 p.

Kebert M., Vuksanović V., Orlović S., Stefels J., De Kok J. L., Bojić M., Kovačević B. Distinction of the two oak species (*Quercus robur* and *Q. cerris*) according to their drought and heat tolerance mechanisms. Book of Abstracts, The 15th International Phytotechnology Conference, Novi Sad, Serbia, 1-5th October 2018, 239 p.

Kebert M., Rial C., Varela.R. M., Molinillo J.M. G.,Igartuburu J. M., Macias F.A. Bioactivity profile of metabolites isolated from *Vicia faba* roots parasited by *Orobanche crenata*. 2nd International Congress on Strigolactone held in Turin, March 27-30th, 2017., Book of abstracts, 59 p.

Kebert M., Rapparini F., Neri L., Orlovic S. Changes in levels of plant hormones (IAA and ABA) as the indicators of heavy metal pollution in poplar plant species, Book of abstract, p.21. COST Young Researchers' Forum at the FTP-c8 Conference - 'Young Researchers Direct the Way to Innovation in the Forest-Based Sector, 11-13. March 2013., Barcelona, Spain

Kebert M., Orlović S, Klašnja B., Štajner D., Popović B. The effect of nickel on the mineral nutrition of poplar's clones and their phytoextraction potential, 4th EuCheMS chemistry congress, August 26-30, 2012, Prague, Chech Republic, Book of abstracts 51 p.

Kebert M., Štajner D., Orlović S., Popović B.M., Stojnić S. Oxidative stress in *Fagus Sylvatica* provenance on Fruška Gora mountain, Book of abstract; 10-th International Conference on Reactive Oxygen and Nitrogen Species in Plants, 5-8th July 2011, Budapest, Hungary p. 48.

Kebert M., Štajner D., Orlović S., Popovic B., Galić Z. Variability of antioxidant activity of *Populus x euramericana* (cl. M1) cultivated at two different forms of fluvisol, Book of abstract; Poplars and willows: from research models to multipurpose trees for a bio-based society, Fifth International Poplar Symposium, 20-25th September 2010, Orvieto, Italy p. 153

PROFESSIONAL MEMBERSHIP	Serbian biochemical society Serbian chemical society Serbian plant physiology society FAO – IPC (International Poplar Commission) MENSA
COMPUTER SKILLS AND COMPETENCES	Microsoft office, Statistica 10, Origin, R, Expander 7, Chem Draw
PERSONAL INTERESTS, HOBBIIES AND OTHER	Writing poetry Blogging Yoga Dancing (R&B and dancehall) Transactional analysis Contemporary and alternative healing methods (Theta healing, reiki etc.)
DRIVING LICENCE	B category

LANGUAGE SKILLS

SELF-ASSESSMENT	Understanding				Speaking				Writing	
EUROPEAN LEVEL (*)	Listening		Reading		Spoken interaction		Spoken production			
ENGLISH	C1	1	C1	1	C1	1	C1	1	C1	1
RUSSIAN	A2	3	A2	3	A2	3	A2	3	A2	3

(*) Common European Framework of Reference for Languages