

Eli Keržič je dobitnica Jesenkove nagrade za najboljšo študentko magistrskega študija v letu 2019

Eli Keržič was awarded as the best M.Sc. student of the Biotechnical Faculty in 2019

Miha Humar, Viljem Vek

Eli Keržič, magistrica inženirka lesarstva, je prejela Jesenkovo nagrado kot najboljša študentka na magistrskih študijskih programih Biotehniške fakultete v letu 2019. Študijske obveznosti na študiju druge stopnje lesarstva (MSc) je opravila s povprečno oceno 9,94, ki je najvišja ocena na Biotehniški fakulteti v letu 2019.

Eli Keržič je z odliko zaključila diplomsko nalogo na univerzitetnem študiju 1. stopnje, odlično ocenjeno pa je bilo tudi njeno zaključno delo na magistrskem študijskem programu 2. stopnje z naslovom »Ekstraktivi v lesu debel, grč in vej bele jelke ter njihov fungicidni potencial«. Za magistrsko nalogo, ki jo je izdelala pod mentorstvom doc. dr. Viljema Veka, je Eli Keržič leta 2019 prejela fakultetno Prešernovo nagrado.

Magistrsko delo je bilo zasnovano in opravljeno na Katedri za kemijo lesa in drugih lignoceluloznih materialov na Oddelku za lesarstvo Biotehniške fakultete Univerze v Ljubljani. Vsebina naloge je bila definirana v sodelovanju s partnerjem iz gospodarstva, podjetjem Ars Pharmae d.o.o. Raziskava je bila zasnovana na drevesih bele jelke (*Abies alba*), iz katerih je Eli izolirala vzorce lesa debela, grč in vej. Vzorce lesa je zmelala in jih nato ekstrahirala v sistemu za pospešeno ekstrakcijo. Ekstrakte je preiskala gravimetrično, spektrofotometrično in kromatografsko, ter določila njihov fungicidni in antioksidativni potencial. Rezultati raziskave so pokazali, da grče in veje vsebujejo največ hidrofilnih ekstraktivov, manj jedrovina, najmanj pa beljava. Največ fenolnih spojin je ekstrahirala iz delov grč, ki so bile vključene v beljavo, ter iz delov vej tik ob deblu.

Eli je dokazala, da so prevladujoče fenolne spojine v grčah jelke lignani. Ugotovila je, da izvlečki iz jelovine zavirajo rast gliv razkrojevalk lesa in izkazujejo velik antioksidativen potencial. Zaščitno funkcijo fenolnih ekstraktivov v lesu je pripisala njihovim bioaktivnim lastnostim, ob tem pa izpostavila, da je lahko tudi manj kakovosten les pomemben surovinski vir dragocenih naravnih učinkovin.



Eli Keržič, dobitnica Jesenkove nagrade za najboljšo študentko magistrskega študija v letu 2019. Foto: Željko Stevanič, IFP d.o.o.

Eli Keržič awarded as the best M.Sc. student of the Biotechnical Faculty in 2019. Photo: Željko Stevanič, IFP d.o.o.

Del rezultatov iz magistrskega dela je Eli Keržič s soavtorji objavila v naši reviji Les/Wood v članku z naslovom Optimization of accelerated solvent extraction (ASE) of silver fir wood (*Abies alba* Mill.). Eli Keržič se je leta 2019 vpisala na interdisciplinarni doktorski študijski program Bioznanosti, znanstveno področje Les in biokompoziti, ter se kot mlada raziskovalska zaposlila na Oddelku za lesarstvo Biotehniške fakultete Univerze v Ljubljani.

Eli Keržič, Master of Wood Science, received the Jesenko Award as the best student in the Master's programs of the Biotechnical Faculty in 2019. She completed her exams at the Master's level

(MSc) of Wood Science and Technology with the grade 9.94, which was the highest grade at the Faculty in 2019.

Eli Keržič completed her diploma thesis in the 1st (BSc) level university course with distinction, and her thesis in the 2nd (MSc) level master's course, with the title "Extracts in silver firs, branches and twigs of silver fir and their fungicidal potential", was also given excellent marks. For her master's thesis, which she wrote under the mentorship of Doc. Dr. Viljem Vek, Eli Keržič was awarded the Faculty's Prešeren Prize in 2019.

The master's thesis was designed and completed at the Chair of Chemistry of Wood and Other Lignocellulosic Materials at the Department of Wood Science and Technology of the Biotechnical Faculty of the University of Ljubljana. The content of the thesis was defined in cooperation with a partner from industry, the company Ars Pharmae d.o.o. The research was based on an investigation of Silver fir (*Abies alba*), from which Eli isolated wood samples from trunks, branches and bark. She ground the wood samples and then extracted them in an accelerated extraction system. She examined the extracts gravimetrically, spectrophotometrically and chromatographically

and determined their fungicidal and antioxidative potential. The research showed that branches and bark contained the most hydrophilic extracts, with less in heartwood and the least in sapwood. She extracted most of the phenolic compounds from the parts of the branches.

Eli Keržič proved that the predominant phenolic compounds in fir knots are lignans. She found that fir extracts inhibit the growth of wood-destroying fungi and have a great antioxidant potential. Eli attributed the protective function of phenolic extracts in wood to their bioactive properties, pointing out that even low-quality wood could be an important source of valuable natural active ingredients.

Some of the results of this master's thesis were published by Eli Keržič and co-authors in our journal *Les / Wood* in an article entitled "Optimization of accelerated solvent extraction (ASE) of silver fir wood (*Abies alba* Mill.)". In 2019 Eli Keržič enrolled in the interdisciplinary PhD program in Life Sciences, in the scientific field of Wood and Biocomposites. She is currently employed as a young researcher in the Department of Wood Science and Technology of the Biotechnical Faculty of the University of Ljubljana. ●