

# Matko Bogunović

(Baćina-Ploče, 21 March 1941 – Zagreb, 20 August 2018)

## In memoriam

The news that Professor Matko Bogunović, a distinguished teacher, scientist, expert and true gentleman, had left us forever, was received with sadness and disbelief by his many friends, colleagues and acquaintances. He left an indelible mark on Croatia through his tireless work on developing and improving pedological science in teaching and the profession.

Professor Matko Bogunović was born on 21 March 1941 in Baćina, near the town of Ploče, where he spent his childhood and attended primary and secondary school. In 1960, he enrolled at the Faculty of Agriculture in Zagreb, in the Fruit Production-Viticulture-Enology programme, and graduated in 1965. In the same year, he was employed as a manager in the Baćina agriculture cooperative, which he led for only one year. In 1966, he moved to the Institute for Soil Science and Technology in Zagreb, where he stayed for the next 10 years. In 1976, he moved to the Faculty of Agriculture at the University of Zagreb, where he was appointed as a junior lecturer in the Soil Science Department. In the same year he defended his master's thesis, 'Semi-gley soils of Slavonia', and received his doctorate in 1988 with the thesis 'Vertic soils of Croatia'. He was appointed Assistant Professor in 1988, Associate Professor in 1992, and Full Professor in 1998. He retired on 1 October 2011.

The extraordinary teaching, scientific and professional work of Professor Matko Bogunović will be summarized below.

Professor Bogunović started teaching in 1976 at the Faculty of Agriculture in Zagreb as a junior lecturer, leading practice classes for the Pedology course. In 1981 he started teaching part of the Soil Mapping course and in 1988, took over the Soil Classification and Mapping course, where he developed a teaching programme for students of Agricultural Amelioration. From 1990, he lectured in Basics of Agriculture, for students of Agricultural Mechanization, and from 1992, for students of Agricultural Economics too. He started teaching Pedology in 1995 for the Plant Sciences course. He also participated in teaching postgraduate scientific studies in Agroecology, where he was the course coordinator for Soil Genesis and Classification and Soil Mapping. He was also the head of this postgraduate study programme for a short time.

In the process of establishing a new study programme at the Faculty of Agriculture adapted to the Bologna



Declaration, he developed teaching materials for the Pedology course at the undergraduate level and was the course coordinator from 2005 to 2010. He developed Soil Genesis and Land Evaluation and Rational Use of Space courses and coordinated them from 2008 to 2010. He designed and coordinated the Nature and Properties of Soil course for postgraduate studies in Agricultural Science.

He was also involved in teaching at other faculties of the University of Zagreb and outside it. From 1997 to 2010 he was the coordinator of the Pedology course at the Department of Biology, Faculty of Science, University of Zagreb and the Pedogeography course at the Department of Geography. In the same period, he was the coordinator of the Basics of Soil Science course at the Faculty of Mining, Geology and Petroleum Engineering of the University of Zagreb. From 1987 to 1996, Professor Bogunović was a lecturer in the Pedology course at the Agricultural Institute in Križevci. From 1994 to his retirement in 2011, he was a guest lecturer at the Faculty of Agriculture of the University of Mostar, where he coordinated the Pedology course. He coordinated the Pedology course for the Mediterranean Agriculture course in Split from 2005 to 2009.

Students remember him as an interesting lecturer who gave his best in each lecture. He thought soil science should be taught more through field work and fought for more field practice in the total teaching process. Regardless of limitations due to high student numbers and scarce resources, field practice in Pedology was always talked about among students. Even those who did not really enjoy soil science recognized and appreciated the efforts which Professor Bogunović invested in this part of the teaching process.

Professor Bogunović was a mentor for two doctoral theses, three master's theses and a large number of undergraduate and graduate theses. He helped his candidates unselfishly and patiently, gladly giving the time and effort needed to bring the final result up to the required level. He was the author of several internal manuscripts, Soil mapping and Soil genesis, as well as many materials for students. He was co-author of Multipurpose Land Evaluation and the Rational Use of Space published in 2014. Continuing the respected tradition of his predecessors at the Soil Science Department, Professor Bogunović expanded its teaching field considerably.

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## In memoriam

Vijest da nas je zauvijek napustio prof. dr. sc. Matko Bogunović, istaknuti nastavnik, znanstvenik, stručnjak i nadasve plemeniti čovjek, tužno i s nevjericom je odjeknula u srcima njegovih najbližih, brojnih prijatelja, kolega i svih koji su ga poznavali. Umro je čovjek koji je svojim neumornim radom na razvoju i unapređenju pedološke znanosti, nastave i struke u Hrvatskoj ostavio neizbrisiv trag.

Matko Bogunović, rođen je 21. ožujka 1941. u mjestu Baćina kod grada Ploče, gdje je proveo djetinjstvo, dok je osnovnu školu i gimnaziju pohađao u Pločama. Nakon završetka gimnazije, 1960. godine upisuje Poljoprivredni fakultet u Zagrebu, smjer Voćarstvo-Vinogradarstvo-Vinarstvo, koji završava 1965. godine. Iste godine zapošljava se kao upravitelj poljoprivredne zadruge Baćina, koju je vodio samo jednu godinu. Naime, već 1966. godine prelazi na Institut za pedologiju i tehnologiju tla u Zagrebu, gdje ostaje slijedećih 10 godina, odnosno do 1976. godine, kada prelazi na Poljoprivredni fakultet Sveučilišta u Zagrebu, gdje je u Zavodu za pedologiju izabran za asistenta. Iste godine je i magistrirao obranom magistarskog rada "Semiglejna tla Slavonije", dok je doktorirao 1988. godine obranom doktorskog rada "Vertična tla Hrvatske".

U znanstveno-nastavno zvanje docenta izabran je 1988. godine, u izvanrednog profesora 1992., redovitog profesora 1998., a u trajno zvanje redovitog profesora 2003. godine. U mirovinu je otišao 1. listopada 2011.

Izuzetno bogati nastavni, znanstveni i stručni opus profesora Matka Bogunovića, pokušat ćemo u nastavku sažeto prikazati. Profesor Bogunović je s radom u nastavi započeo 1976. godine na Poljoprivrednom fakultetu u Zagrebu, u svojstvu asistenta, izvodeći vježbe iz predmeta Pedologija. Godine 1981. povjerava mu se nastava iz dijela predmeta Pedološko kartiranje, a 1988. preuzima nositeljstvo predmeta Sistematika i kartiranje gdje osmišljava program nastave za studente Poljoprivrednih melioracija. Od 1990. godine preuzima predavanja na predmetu Osnove agrikulture za studente Poljoprivredne mehanizacije, a od 1992. i za studente Poljoprivredno-ekonomskog smjera. Predmet Pedologija počeo je predavati 1995. za obrazovni profil Bilinogojstvo. Sudjelovao je i u izvođenju nastave na Poslijediplomskom studiju za znanstveno usavršavanje iz Agroekologije, gdje je bio nositelj predmeta: Geneza i klasifikacija tala i Pedološko kartiranje. Kraće vrijeme bio je i voditelj toga studija.

Pri osnivanju novog studijskog programa Agronomskog fakulteta prilagođenog Bolonjskoj deklaraciji, izradio je program i nastavne materijale za modul Pedologija na preddiplomskoj razini, te bio nositelj navedenog modula u

razdoblju 2005–2010. Za diplomski studij Agroekologija izradio je programe i nastavne materijale za module Postanak tla i Vrednovanje i racionalno korištenje prostora, te im bio nositelj od 2008–2010. godine. Na poslijediplomskom doktorskome studiju "Poljoprivredne znanosti" osmislio je i koordinirao modul Priroda i svojstva tla.

Njegov angažman u nastavi na ostalim fakultetima Sveučilišta u Zagrebu, kao i izvan spomenutog Sveučilišta, bio je, također, vrlo velik. Od 1997. do 2010. godine bio je nositelj modula Pedologija na Biološkom odsjeku i modula Pedogeografija na Geografskom odsjeku Sveučilišta u Zagrebu Prirodoslovno-matematičkog fakulteta. U istom razdoblju bio je i nositelj modula Osnove tloznanstva na Sveučilištu u Zagrebu Rudarsko geološko naftnom fakultetu.

U razdoblju od 1987. do 1996. prof. Bogunović je bio nositelj nastave iz predmeta Pedologija na Poljoprivrednom institutu u Križevcima. Od 1994. godine do odlaska u mirovinu 2011. godine, bio je gostujući nastavnik na Agronomskom fakultetu Sveučilišta u Mostaru, gdje je vodio kolegij Pedologija. Na studiju "Meditranska poljoprivreda" u Splitu bio je koordinator modula Pedologija u razdoblju 2005–2009.

Studenti će ga pamtiti kao zanimljivog predavača koji se bezrezervno davao na svakom predavanju. Smatrao je da se pedologija najbolje uči na terenu i zagovarao povećanje udjela terenske nastave u satnici. Bez obzira na počesto ograničene mogućnosti zbog velikog broja studenata, a manjka sredstava, terenska nastava iz Pedologije bila je jedna od onih o kojoj se pričalo među studentima. Čak i oni kojima pedologija nije bila posebno zanimljiva prepoznali su i cijenili trud koji je profesor ulagao i u taj dio nastave.

Profesor Bogunović je bio mentor dviju disertacija, tri magistarska rada i velikog broja diplomskih radova. Ne-sebično i strpljivo pomagao je svojim kandidatima, ne žaleći truda i vremena da konačni rezultat bude dotjeran do potrebne razine.

Autor je internih skripti "Pedološko kartiranje" i "Postanak tla" te brojnih nastavnih materijala za potrebe studenata. Koautor je udžbenika "Višenamjensko vrednovanje zemljišta i racionalno korištenje prostora" objavljenog 2014. godine. Nastavljujući poznatu i uvažavanu tradiciju svojih prethodnika u Zavodu za pedologiju, prof. Bogunović znatno je proširio područje nastavne djelatnosti za vodu.

Profesor Bogunović bio je izuzetno aktivan i na području znanstvene djelatnosti. Od 1966. do 1986. godine aktivno je



Professor Bogunović was also very involved in scientific activities. From 1966 to 1986, he participated in the Basic Soil Map of Croatia, 1:50 000 project, and this was his main scientific concern in those 20 years. Within this project, alone or as a co-author, he produced 43 complete or partial sections of the Soil Map 1:50 000, for the territory of the Republic of Croatia. In other words, he mapped 22% of our country at a semi-detailed level. Soil mapping was his favourite area during his whole career. With collaborators, he produced his most respected scientific papers and projects in this area. The most important projects were the Soil Suitability Map of the Republic of Croatia 1:300 000 which he led in from 1993 to 1996, and the Map of Soil Erosion Risk by Water in the Republic of Croatia 1:300 000" from 1997 to 2000. As a part of the international European Database and Soil Map of Europe 1: 1 000 000 project, he was the project coordinator for the Republic of Croatia from 1994 to 1998 and, in cooperation with colleagues from the Department, produced the Soil Map of the Republic of Croatia 1:1 000 000 according to the FAO classification criteria.

Although he was predominantly involved in soil mapping and classification during his whole career, he participated as an associate in many other scientific projects, such as Soil and Land Reclamation, Soil and Water Protection, A Hydropedological Map of Republic of Croatia 1:300 000 and others.

At the end of his career, he started a national scientific project, Soil Acidification and Dehumification in Agroecosystems in Continental Croatia and led it from 2007 to 2010, with the intention that the project activities started would continue even after its formal end.

Professor Bogunović was the author of more than 100 scientific papers, of which over 60 are indexed in the relevant databases, mainly dealing with soil genesis, classification and mapping. He was also the author of 40 papers published in journals, books and monographs. He wrote chapters for Soils of Upper Posavina, Soils of Slavonia and Baranja, The Pedosphere of Istria and Soils of Mountainous Croatia. During his long career, he participated in many international and national scientific conferences, often as a guest lecturer. He was known for his distinctive style of presentation and lively discussions with colleagues, always respecting and appreciating others' results, while enthusiastically defending his own opinions.

In addition to his teaching and scientific activities, his professional activity throughout his career was wide-ranging and dynamic. He produced, alone or with associates, over 100 studies, elaborations, expert projects and expert opinions for agricultural organisations, municipalities, cities and counties. His professional work included studies for land evaluation and planning, projects and studies of

soil reclamation for hydro- and agro-amelioration, studies and elaborates for prudential evaluation, land protection and categorisation, hydropedological studies as a basis for drainage and irrigation projects of, expert opinions on contamination and management of damaged soils, and multipurpose land evaluation in GIS technology. Professor Bogunović made a significant contribution to the development of the soil science profession in Croatia throughout his entire career.

He also performed various functions, of which only the most important are listed here. From 1988 to 1990, he was Head of the Institute of Agroecology. From 1988 to 1996, he was Secretary of the Scientific Council for Remote Sensing and Photointerpretation at the Croatian Academy of Sciences and Art, and from 1997, Vice-President of Council. From 1993 to 1997 he was Council's President of the Committee for Agriculture and Forestry, and from 2000 to 2002, President of the Council. He completed several terms as Head of the Department of Soil Science at the Faculty of Agriculture University of Zagreb.

Professor Bogunović was also a member of editorial board of *Agronomski glasnik* and the *Bulletin for Remote Sensing and Photointerpretation*, and a member of many scientific and organization committees for international and national conferences. He was an active member of national scientific societies: the Croatian Soil Science Society, Croatian Ecological Society, Croatian Hydrological Society, Croatian Society of Agronomists, and international soil science societies at the European and global levels.

He received several awards and acknowledgements for his long, successful work in soil science. However, more than all these awards, he enjoyed the warm smiles and friendly handshakes of his former students who greeted him whenever they met and never forgot everything he had passed on to them – much more than mere knowledge of soils.

We who had the opportunity, honour and pleasure to learn from Professor Bogunović will remember his attitude toward work and his associates, his honesty, perseverance, collegiality, enthusiasm and dedication to the profession. We will remember him as a good man with a cheerful spirit and tremendous energy, always ready to listen and help, with a broad smile and wide acceptance of life and people.

His scientific, teaching and professional activities are permanently recorded in scientific papers, books, presentations and studies, and in the memories of all who knew him and had the opportunity to work with him. We are sincerely grateful for everything that Professor Bogunović did so unselfishly for many of us. May he rest in peace.

*Stjepan Husnjak* ■



sudjelovao na projektu "Izrada Osnovne pedološke karte RH mjerila 1:50 000" i to mu je bila glavna znanstvena preokupacija tih 20-ak godina. U tom projektu samostalno je, ili kao koautor, izradio 43 potpuna ili djelomična lista Pedološke karte mjerila 1:50 000 na području Republike Hrvatske. Drugim riječima, pedološki je na semidetaljnoj razini "iskartirao" oko 22% područja Hrvatske. Pedokartografija je bila njegovo najdraže područje tijekom cijele karijere. U tom segmentu ostvario je zajedno sa suradnicima i svoje najzapaženije znanstvene radove i projekte.

Najvažniji među njima koje svakako valja istaknuti su "Namjenska pedološka karta Republike Hrvatske 1:300 000" koji je vodio u razdoblju 1993–1996., te "Karta rizika od erozije tla vodom u RH 1: 300.000" u razdoblju 1997–2000. U sklopu međunarodnog projekta "Izrada europske baze podataka i pedološke karte Europe u mjerilu 1:1 000 000" bio je koordinator za Republiku Hrvatsku tijekom razdoblja 1994–1998, te je u suradnji s kolegama sa Zavoda izradio Pedološku kartu RH 1:1 000 000 prema FAO klasifikaciji.

Iako se tijekom svoje karijere dominantno bavio kartografijom i klasifikacijom tala, sudjelovao je kao suradnik i u brojnim drugim znanstvenim projektima, poput npr. projekta "Tlo i uređenje zemljišta", "Zaštita tla i voda", "Hidropedološka karta Republike Hrvatske mjerila 1:300 000" i drugima.

Pred kraj karijere pokrenuo je nacionalni znanstveni projekt "Zakiseljavanje tala i dehumizacija u agroekosustavima kontinentalne Hrvatske" i vodio ga u razdoblju 2007–2010., sa željom da se aktivnosti započete na navedenom projektu nastave i nakon isteka formalnog trajanja projekta.

Profesor Bogunović autor je više od 100 znanstvenih radova od kojih je više od 60 indeksirano u relevantnim bazama podataka, a u kojima se uglavnom bavio genezom tala, klasifikacijom i pedokartografijom. Također, autor je 40-ak radova objavljenih u časopisima, knjigama i monografijama. Posebno vrijedi istaknuti autorstvo pojedinih poglavlja u monografijama: "Tla Gornje Posavine", "Tla Slavonije i Baranje", "Pedosfera Istre" i "Tla Gorske Hrvatske".

Tijekom svoje dugogodišnje karijere sudjelovao je na mnogim međunarodnim i domaćim znanstvenim skupovima, nerijetko s pozvanim predavanjima. Bio je poznat po svom osebujnom stilu izlaganja i žustrim raspravama s kolegama, uvijek uvažavajući i cijeneći tuđi rad i rezultate, ali i gorljivo braneći svoje stavove.

Osim znanstvene i nastavne, posebno je bila bogata i živa njegova stručna djelatnost tijekom svih godina radnog vijeka. Izradio je sam ili sa suradnicima više od 100 studija, elaborata, stručnih projekata i ekspertiza za mnoge poljoprivredno-proizvodne organizacije, općine, gradove i županije. Stručni rad profesora Bogunovića obuhvaćao je studije za prostorno vrednovanje i planiranje, projekte i studije

uređenja tala za hidro i agromelioracijske potrebe, studije i elaborate za bonitetno vrednovanje, zaštitu i kategorizaciju zemljišta, hidropedološke studije, kao osnove za projekte odvodnje i natapanja, ekspertize onečišćenja i uređenja oštećenih tala, te višenamjenska vrednovanja zemljišta u GIS tehnologiji.

Objavio je veliki broj stručnih radova i sudjelovao na mnogim stručnim skupovima. Profesor Bogunović je intenzivnim stručnim radom kroz cijeli svoj radni vijek dao znatan doprinos daljnjem razvoju tloznanstvene struke u Hrvatskoj.

Tijekom svoje bogate karijere obnašao je i raznovrsne funkcije od kojih se ovdje navode samo najvažnije. U razdoblju od 1988. do 1990. bio je čelna osoba Instituta za agroekologiju. Od 1988. do 1996. bio je tajnik Vijeća za daljinska istraživanja i fotointerpretaciju pri Hrvatskoj akademiji znanosti i umjetnosti, a od 1997. potpredsjednik toga Vijeća. U razdoblju od 1993. do 1997. u navedenom Vijeću HAZU-a je bio predsjednik Komisije za poljoprivredu i šumarstvo, a od 2000. do 2002. bio je predsjednik toga Vijeća. U više mandata, bio je Predstojnik Zavoda za pedologiju Agronomskog fakulteta u Zagrebu.

Profesor Bogunović bio je i dugogodišnji član Uredničkog odbora časopisa "Agronomski glasnik" i "Biltena za daljinska istraživanja i fotointerpretaciju", kao i mnogih znanstvenih i organizacijskih odbora međunarodnih i domaćih kongresa. Bio je aktivan član domaćih znanstvenih društava: Hrvatskog tloznanstvenog društva, Hrvatskog ekološkog društva, Hrvatskog hidrološkog društva i Hrvatskog agronomskog društva, kao i međunarodnih pedoloških društava na europskoj i svjetskoj razini.

Za svoj uspješan dugogodišnji pedološki rad dobio je više nagrada, priznanja i zahvalnica. Međutim, više od svih tih nagrada i priznanja, vrijedio mu je stisak ruke i srdačan osmijeh bivših studenata kojim su ga pozdravljali kad bi se sreli i prisjetili se svega onoga što im je dao. A to nisu bila samo znanja o tlu.

Svi mi koji smo imali priliku, čast i zadovoljstvo učiti od profesora Bogunovića pamtit ćemo njegov odnos prema radu i suradnicima, njegovu iskrenost, upornost, kolegijalnost, entuzijazam i predanost struci. Pamtit ćemo ga kao dobrog čovjeka, vedra duha, ogromne životne energije, uvijek spremnog saslušati i pomoći, čovjeka širokog osmijeha i još širih pogleda na život i ljude.

Znanstvena, nastavna i stručna djelatnost profesora Bogunovića ostala je trajno zapisana u mnogim znanstvenim radovima, knjigama, skriptama, prezentacijama, studijama, te u sjećanju svih nas koji smo ga poznavali i imali priliku s njim surađivati.

Iskreno zahvaljujemo za sve dobro koje je mnogima nesebično davao i neka mu je laka hrvatska gruda. Neke je slava i hvala prof. dr. sc. Matku Bogunoviću.

Stjepan Husnjak ■