

**IN MEMORIAM:**  
**Professor ANDREA BAČANI, PhD, BSc**  
**in Geology (1954 – 2018)**

The Mining-Geology-Petroleum Engineering Bulletin  
 UDC: 55  
 DOI: 10.17794/rgn.2018.3.12

Non-reviewed note



**Zoran Nakić<sup>1</sup>; Darko Mayer<sup>1</sup>; Kristijan Posavec<sup>1</sup>; Ranko Žugaj<sup>1</sup>;  
 Jelena Parlov<sup>1</sup>; Dario Perković<sup>1</sup>; Zoran Kovač<sup>1</sup>**

<sup>1</sup> University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering, Pierottijeva 6, Zagreb, Croatia

Our dear and highly respected Andrea Bačani (née Župarić), full professor of the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb, passed away on February 24, 2018.

Professor Bačani was employed at the Department of Geology and Geological Engineering at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb from 1979 until 2018. For the first 18 years she was a collaborator in the projects of Professor Pavao Miletić, and in 1992 she became an assistant. Since then, she advanced through all professional levels until she became a tenured full professor in 2011.

In the course of her long and fruitful working life she dedicated herself to scientific, professional and pedagogical work in the area of technical sciences, field of Mining, Petroleum Engineering and Geological Engineering, to the branch of Geological Engineering. She was an accomplished hydrogeologist.

Professor Andrea Bačani was born on August 12, 1954 in Zagreb, where she finished elementary school and a comprehensive secondary school. She graduated from the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb on December 22, 1978 and became a BSc of Geology. The title of her graduation thesis was *Engineering-geological characteristics of the wider area of the Brezovo polje-Žirovac route*. Professor Bačani had shown an interest in pursuing a scientific career even as a student when she was awarded a Chancellor's Award in the academic year 1977/1978. This award is presented only to the best students.

Her exceedingly rich pedagogical, scientific and professional career began in 1979 at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb, when she started working at the Department for Engineering Geology, Hydrogeology, Geology of coal and petroleum as a professional collaborator. She immediately started working on hydrogeological exploration for the Eastern Slavonian Posavina water supply project, led by Professor Pavao Miletić. Her tasks consisted of controlling the creation of structural and piezometric drill holes and test and exploratory wells as well as test

pumping. The work was conducted across a wide area to the north of the Sava River, between Slavonski Brod in the west and Lipovac in the east as well as south of the watershed dividing the catchment areas of the rivers Sava and Drava. Since that work was occasionally done using as many as three drilling apparatuses, it was necessary to travel very frequently, sometimes as much as twice or three times a week to that area. Andrea immediately took part in this work, showing a great deal of interest. With her collaborators she travelled many dozens of times to Slavonia, frequently driving her own car, Zastava 850, and in this way gathered her first experiences as a driver. She was very successful working in the field although the work was often fraught with difficulty. Through her approach and behaviour, she asserted her authority and earned the respect of her colleagues and co-workers. She also worked in the laboratory, interpreting the data, creating studies and research programs as well as preparing competition materials.

She defended her Master's thesis at the Faculty of Science, University of Zagreb on May 18, 1990. The thesis was entitled *The influence of poorly permeable sediments on the renewal of groundwater supply using the example of Eastern Slavonia*.

Hydrogeology as well as Eastern Slavonia remain in the focus of her scientific interest and exploration in the next stage of her career as well. While working on her PhD thesis, she explored the characteristics of hydraulic borders of aquifers at the catchment areas of the Sava and Drava rivers in Eastern Slavonia. She invested an exceeding amount of work in her exploration, both in the field and in her study. Although many of them were already processed, she frequently had to gather and re-process very extensive basic substructures. While discussing professional and scientific topics connected to Eastern Slavonia with her collaborators, she was always joyful and smiling, proving that she regarded Eastern Slavonia as an area she was very intimately connected to, an area she invested a lot of effort in and knew really well. After seven years of exploration of aquifer characteristics in Eastern Slavonia, Andrea Bačani defended her doctoral dissertation entitled *Characteristics of hydraulic borders of aquifers at the catchment area of the Sava and Drava rivers in Eastern Slavonia* on May 16,

Corresponding author: Zoran Nakić  
 zoran.nakic@rgn.hr

1997 at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb. This enabled her to become Assistant Professor very quickly, in 1998.

Professor Andrea Bačani chose hydrogeology as the subject of her pedagogical, scientific and exploratory work through the choice of topics of her Master's Thesis and her doctoral dissertation. After the defence of her doctoral dissertation, she specialized in the exploration of groundwater supply, groundwater protection, groundwater flow modelling and pollution transportation methods.

Very frequently she included young colleagues in her scientific and exploratory work. To them, she was always an excellent leader and support allowing them to get to the very core of any scientific problem and perform all, even the scientifically most demanding research successfully. She published, most frequently as a co-author with young colleagues, 79 scientific papers, five of which were published in magazines quoted in tertiary publications, 18 in magazines published in secondary publications, 52 papers were published in the proceedings of international and domestic scientific conferences, and one chapter in a book. Professor Bačani was also the author of three university textbooks.

Professor Bačani gave one invited lecture at an international conference and four invited lectures at domestic scientific conferences. She lectured at 16 international and 12 domestic scientific conferences and gave four public lectures.

Professor Bačani was also the leader of the Ministry of Science, education and Sport's scientific project entitled: *The dynamics, protection and exploitation reserves of Croatia's groundwaters* in the period from 2008 until 2013. As a collaborator, she participated in numerous international and domestic scientific projects. Among international projects, we shall mention only **GENESIS – Groundwater and dependent Ecosystems: New Scientific basis on climate change and land-use impacts for the update of the EU Groundwater Directive (FP7-ENV-2008-1)** from 2009 until 2013. From 1981 until 2006 she also participated in four domestic scientific projects: *Management of Croatian groundwaters*, *Complex hydrogeological exploration of Croatian lowlands*, *An analysis of Croatian hydrogeological explorations* and *Exploitation reserves of Croatian groundwaters*.

Professor Bačani reviewed three University textbooks, one compendium and two teaching materials as well as more than 40 scientific papers. Her reviews were always carried out very carefully and thoroughly and have always greatly helped the authors.

From 2007 until 2018 she was a member and, for a while, acting chairperson of the Board for the fields of Chemical Engineering, Mining, Petroleum and Geological Engineering, Metallurgy, Textile Technology and Graphic Technology.

Her professional career is also well worth mentioning. At the Ministry of Environment and Energy, she

served as the president and member of committees for the evaluation of environmental impact of more than 20 projects. At the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb, she worked on more than 90 professional projects and led more than half of them. We would like to single out the project she worked on for many years as a collaborator of Professor Pavao Miletić, in collaboration with Croatian waters entitled *Registry and management of Croatian groundwaters*. After Professor Miletić's retired, the current professor Emeritus Darko Mayer led the project for a short while. Professor Bačani took over the project from Professor Mayer and continued as its successful leader since 2002.

Professor Bačani was a member of the *Croatian Geological Society*, a member of the *Head Committee of the Croatian Hydrological Society* and a member of numerous international professional societies, such as *International Association of Hydrogeologists*, *Association of Ground Water Scientists and Engineers* as well as *American Geophysical Union*.

Professor Andrea Bačani was a greatly appreciated teacher at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb. Aside from this institution, she also taught at high schools and other institutions of higher learning in the Republic of Croatia.

In the period before the advent of the Bologna system, Professor Bačani taught the following courses at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb: *Hydrogeology I*, *Hydrogeology and Engineering Geology* and *Methods of operational exploration in hydrogeology*. Within the scope of the Bologna study programme, Professor Bačani defined the contents and taught at the pregraduate as well as the graduate study levels at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb the following courses: *Hydrogeology I* (pregraduate study of Geological Engineering), *Hydrology and Hydrogeology* (pregraduate study of Mining), *Hydrogeology II* (graduate study of Geological Engineering) and *Methods of operational exploration in hydrogeology* (graduate study of Geological Engineering). At the doctoral study at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb she taught the following courses: *Petroleum hydrogeology* and *Operational exploration in hydrogeology*.

At the High school for chemistry and technology Professor Bačani taught two courses: *Engineering Geology and Hydrogeology* and *Geology of oil, gas and coal beds* in the period from 1983 until 1988. She also taught a course in *Hydrogeology* at the Faculty of Science, University of Zagreb starting in 1997 and a course in *Geology and Petrology* at the faculty of Civil Engineering, University of Zagreb from 1985 until 1990.

She also had many duties in the teaching process which she performed very conscientiously since 1992. These are only some of the most important ones:

- Head of summer practice for students of Geology,
- President of the Committee for enrolment of students into their first year of studies of pregraduate and graduate studies at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb,
- Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb's coordinator at the Agency for Science and Higher Education,
- President of the Committee for final and graduation exams at the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb.

In cooperation with Professor Emeritus Darko Mayer, she wrote examples for the textbook of Professor Pavao Miletić, PhD and Professor Marija Heinrich Miletić, PhD: *Introduction to quantitative hydrogeology* in the very beginning of her academic career, in 1981.

Professor Bačani is the author of three University textbooks: *Hydrogeology I* – first issue was published in 2006 – as well as a co-author of two additional textbooks: *Methods of operational exploration in hydrogeology*, published in 2011 with Professor Kristijan Posavec and *Hydrogeology – application in civil engineering*, published in 2012, co-authored by Professor Tatjana Vlahović, PhD.

The highest achievement of educational work, and permanent legacy of each professor, is written material. It is why here is mentioned very first university book of Prof. Andrea Bačani, as sole author.

That book, *Hydrology I*, had been present in the Croatian Waters in Zagreb, organised by the Croatian Hydrological Society. It was published as university script, as the author strictly insisted. However, such descriptive and concise educational material, including strict and clear definitions of all basic hydrogeological terms and methods, is extraordinary well-prepared handbook, even book, what had been confirmed with several issues through years, after it was sold-out. The value of that book is permanent. It was dedicated to the most loved persons in her life – daughter Laura and son Bruno.

Professor Andrea Bačani was an exceptional person in every way. Through her work she contributed immensely to the scientific, pedagogical and professional community, the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb, and particularly to her own Department of Geology and Geological Engineering. Not only was she a member of the Department, she also very successfully served as its Head in two terms. Her colleagues respected and appreciated her for her professionalism, expertise and dedication to hydrogeology.

She loved her work very much and worked on each project with great enthusiasm, both as a team leader and as a team member. She accepted all professional challenges with great gusto. Professor Bačani contributed beyond measure to the education of a great number of today's engineers and scientists, whom she taught the basics of hydrogeology.

Her students loved her very much and held her lectures in great esteem, particularly her simplicity of language and expression and the ease with which she transferred all, including the most demanding hydrogeological topics in a clear and easily understandable way. This is clearly visible from the data regarding the number of students who attended her lectures as well as from the data regarding her supervision of seven PhD theses, two Master's theses and more than 60 final and graduation theses. The average grade awarded her by the students always rose high above the average grade of other teachers both at the Faculty of Mining, Geology and Petroleum Engineering and at the University of Zagreb. Professor Andrea Bačani prepared extensively for every lecture she gave, whether they were a part of her regular classes or invited lectures. She paid particular attention to field classes which she designed, organized and held regularly.

It is particularly important to point out that professor Andrea Bačani was a truly wonderful person, kind and good. She was simple and easy to communicate with, warm and sensitive to all in need, trusting towards her collaborators, colleagues and students. These virtues were for her completely natural and for all of us, who knew her, so special. It is rare for a person to touch the people around her with her personality and character, good temper and warmth, enrich us and make us better human beings. Our dear Andrea was all that and much more. First and foremost, she was a wonderful human being.

She was always in a good mood, always ready to travel, to jump into water from waterfalls that much younger divers were afraid to jump from. She simply adored nature and travelling.

More than anything else, she loved her children. She was very proud of her daughter Laura's study success, her son Bruno's diving adventures and would do anything for them.

Our dear Andrea was a person we could all trust and a true support to all of us. We want to thank her for all that she was and all that she gave as our colleague and our friend. The memory of her at our Department and our Faculty will live forever. For that we are all immeasurably grateful.

## Authors:

**Zoran Nakić** (Professor, PhD), **Darko Mayer** (retired Professor, PhD), **Kristijan Posavec** (Professor, PhD), **Ranko Žugaj** (retired Professor, PhD), **Jelena Parlov** (Assistant Professor, PhD), **Dario Perković** (Assistant Professor, PhD), **Zoran Kovač** (PhD).



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<sup>1</sup> Sveučilište u Zagrebu, Rudarsko-geološko-naftni fakultet, Pierottijeva 6, Zagreb

Naša draga i poštovana Andrea Bačani (rođ. Župarić), redovita profesorica u trajnome zvanju Rudarsko-geološko-naftnoga fakulteta Sveučilišta u Zagrebu, preminula je 24. veljače 2018. godine.

Profesorica Andrea Bačani radila je u Zavodu za geologiju i geološko inženjerstvo Rudarsko-geološko-naftnoga fakulteta Sveučilišta u Zagrebu, u razdoblju od 1979. do 2018. godine. Prvih 14 godina bila je suradnica na projektima prof. dr. sc. Pavla Miletića, a 1992. godine postala je asistentica. Od tada redovito prolazi sve stupnjeve napredovanja do redovite profesorice u trajnome zvanju – u koje je izabrana 2011. godine.

Tijekom svojega dugog i produktivnog radnog vijeka posvetila se znanstvenomu, stručnom i nastavnom radu u području tehničkih znanosti, polju rudarstvo, nafta i geološko inženjerstvo, grani geološko inženjerstvo. Bila je vrstan hidrogeolog.

Prof. dr. sc. Andrea Bačani rođena je 12. kolovoza 1954. godine u Zagrebu, gdje je završila osnovnu školu i gimnaziju. Diplomirala je geologiju na Rudarsko-geološko-naftnome fakultetu Sveučilišta u Zagrebu, 22. prosinca 1978. godine, obranivši diplomski rad pod naslovom: *Inženjersko-geološke karakteristike šireg područja trase Brezovo polje – Žirovac*. Profesorica Bačani svoj je interes za znanstvenom karijerom pokazala još kao studentica, kada je u ak. god. 1977./1978. dobila Rektorovu nagradu za najbolje studente.

Svoju iznimno bogatu nastavnu, znanstvenu i stručnu karijeru na Rudarsko-geološko-naftnome fakultetu Sveučilišta u Zagrebu započela je 1979. godine, kada se zaposlila u Zavodu za inženjersku geologiju, hidrogeologiju i geologiju nafte i ugljena, kao stručna suradnica. Odmah nakon zaposlenja radila je na hidrogeološkim istraživanjima u sklopu projekta vodoopskrbe istočno-slavonske Posavine, pod vodstvom profesora Pavla Miletića. Posao se sastojao od nadzora nad izvođenjem strukturno-piezometarskih bušotina i pokusno-eksploatacijskih zdenaca te pokusnoga crpljenja. Navedeni radovi izvodili su se na širokome prostoru smještenome sjeverno od rijeke Save, između Slavanskoga Broda na zapadu i Lipovca na istoku te južno od vododjelnice iz-

među savskoga i dravskoga slijeva. Kako se povremeno radilo i s tri bušaće garniture, trebalo je vrlo često, ponekad i dva puta tjedno, putovati u to područje. Andrea se odmah, s puno volje i zanimanja uključila u posao. Sa svojim suradnicima više desetaka puta putovala je u Slavoniju. Često je putovala svojim automobilom, Zastavom 850, te je tako stjecala svoje prvo vozačko iskustvo. Na terenu se snalazila vrlo dobro, iako često to nije bilo jednostavno. Svojim pristupom i ponašanjem pokazala je autoritet i zavrijedila poštovanje svojih kolega i suradnika. Radila je i izvan terena na interpretaciji prikupljenih podataka, izradi elaborata i programa istraživanja te pripremi natječajnih materijala.

Magistarski rad pod naslovom *Utjecaj slabo-propusnih naslaga na obnavljanje zaliha podzemnih voda na primjeru Istočne Slavonije* obranila je na Prirodoslovno-matematičkome fakultetu Sveučilišta u Zagrebu, 18. svibnja 1990. godine.

Hidrogeologija, kao i istočna Slavonija, i u narednome razdoblju njezine karijere ostaju u središtu njezinih znanstvenih interesa i istraživanja. Tijekom rada na disertaciji istraživala je značajke hidrauličkih granica vodonosnih slojeva na vododjelnici savskoga i dravskoga porječja u istočnoj Slavoniji. U istraživanja je uložila izniman trud i rad, kako u istraživanja na terenu, tako i u rad u kabinetu. Pritom je, iako su već bile obrađene, često morala prikupljati i obrađivati vrlo opsežne osnovne podloge. Znanstveni i stručni razgovori sa suradnicima, u kojima je tema bila istočna Slavonija, izazivali su u njoj radost i osmijeh na licu, i moglo se primijetiti koliko je zapravo istočnu Slavoniju doživljavala kao nešto svoje, nešto u što je uložila jako puno truda i što je poznavala jako dobro. Istražujući punih sedam godina značajke vodonosnih slojeva u istočnoj Slavoniji, Andrea Bačani doktorsku disertaciju pod naslovom *Značajke hidrauličkih granica vodonosnih slojeva na vododjelnici savskog i dravskog porječja u Istočnoj Slavoniji* obranila je 16. svibnja 1997. godine na Rudarsko-geološko-naftnome fakultetu Sveučilišta u Zagrebu. To joj je vrlo brzo, već naredne 1998. godine, omogućilo izbor u znanstveno-nastavno zvanje docentice.

Profesorica Andrea Bačani već se pri odabiru tema za svoj magistarski i doktorski rad odlučila da je hidrogeologija područje njezina nastavnoga i znanstveno-istraži-

vačkoga rada. U nastavku karijere, nakon obranjene doktorske disertacije, uže područje njezina znanstvenoga interesa bilo je istraživanje zaliha podzemnih voda, zaštita podzemnih voda te modeliranje tečenja podzemne vode i transporta onečišćenja.

Svoj vrijedan znanstveno-istraživački rad najčešće je provodila u suradnji s mlađim kolegama. Njima je redovito bila sjajna voditeljica i oslonac, a zbog njezine ne-sebične pomoći oni su s njom ulazili u bit znanstvenih problema i takva, pa i najsloženija istraživanja zajedno uspješno obavljali. Najčešće u suautorstvu s njima, objavila je ukupno 79 znanstvenih radova, od kojih je pet objavljeno u časopisima citiranim u tercijarnim publikacijama, 18 u časopisima citiranim u sekundarnim publikacijama, 52 su rada u zbornicima međunarodnih i domaćih znanstvenih skupova, jedan je rad poglavlje u knjizi, a tri su rada sveučilišni udžbenici.

Održala je jedno pozvano predavanje na međunarodnome znanstvenom skupu i četiri na domaćim znanstvenim skupovima. Izlagala je na 16 međunarodnih i 12 domaćih znanstvenih skupova i održala četiri javna predavanja.

Bila je voditeljica znanstvenoga projekta Ministarstva znanosti, obrazovanja i športa pod naslovom *Dinamika, zaštita i eksploatacijske zalihe podzemnih voda Hrvatske* u razdoblju od 2008. do 2013. godine. Kao suradnica sudjelovala je u ostvarivanju međunarodnih i domaćih znanstvenih projekata: na međunarodnome znanstvenom projektu *GENESIS – Groundwater and dependent Ecosystems: New Scientific basis on climate change and land-use impacts for the update of the EU Groundwater Directive (FP7-ENV-2008-1)* od 2009. do 2013. godine te na četirima domaćim znanstvenim projektima: *Gospodarenje podzemnim vodama Hrvatske, Kompleksna hidrogeološka istraživanja ravničarskih terena Hrvatske, Analiza hidrogeoloških istraživanja Hrvatske i Eksploatacijske zalihe podzemnih voda Hrvatske* od 1981. do 2006. godine.

Recenzirala je tri sveučilišna udžbenika, jednu skriptu i dva nastavna materijala te preko 40 znanstvenih radova, a njezine su recenzije bile izrađene pažljivo i temeljito i uvijek su pomogle autorima.

Od 2007. do 2018. godine bila je članica, a jedno vrijeme i vršiteljica dužnosti predsjednice Matičnoga odbora za polja kemijskog inženjerstva, rudarstva, nafte i geološkog inženjerstva, metalurgije, tekstilne tehnologije i grafičke tehnologije.

Osim znanstvene vrlo je vrijedna i njezina stručna djelatnost. Pri Ministarstvu zaštite okoliša i prostornoga uređenja bila je predsjednica i članica povjerenstava za procjenu utjecaja na okoliš za više od 20 projekata. Na Rudarsko-geološko-naftnome fakultetu Sveučilišta u Zagrebu radila je na više od 90 stručnih projekata, a od toga ih je više od polovice vodila. Pritom se izdvaja projekt ostvaren u suradnji s Hrvatskim vodama: *Evidencija i gospodarenje podzemnim vodama Hrvatske*, na kojemu je dugi niz godina radila kao suradnica prof.

dr. sc. Pavla Miletića. Nakon što je on otišao u mirovinu i taj projekt kraće vrijeme vodio sadašnji prof. emeritus Darko Mayer, nastavila ga je samostalno uspješno voditi od 2002. godine.

Bila je članica *Hrvatskoga geološkog društva*, članica *Glavnoga odbora Hrvatskoga hidrološkog društva* te članica inozemnih stručnih društava: *International Association of Hydrogeologists*, *Association of Ground Water Scientists and Engineers* i *American Geophysical Union*.

Profesorica Andrea Bačani bila je tijekom svojega cijelog radnog vijeka izvrsna i iznimno cijenjena nastavnica Rudarsko-geološko-naftnoga fakulteta Sveučilišta u Zagrebu. Osim na svojoj matičnoj instituciji nastavu je održavala i na drugim institucijama srednjega i visokoga obrazovanja u Republici Hrvatskoj.

U razdoblju prije Bolonjskoga studijskog programa bila je nastavnica iz kolegija: *Hidrogeologija I, Hidrogeologija i inženjerska geologija* te *Metode operacijskih istraživanja u hidrogeologiji* na Rudarsko-geološko-naftnome fakultetu Sveučilišta u Zagrebu. U sklopu Bolonjskoga studijskog programa sastavila je sadržaje i bila je nastavnica na preddiplomskim studijima i diplomskome studiju Rudarsko-geološko-naftnoga fakulteta Sveučilišta u Zagrebu iz kolegija: *Hidrogeologija I* (preddiplomski studij geološkoga inženjerstva), *Hidrologija i hidrogeologija* (preddiplomski studij rudarstva), *Hidrogeologija II* (diplomski studij geološkoga inženjerstva) i *Metode operacijskih istraživanja u hidrogeologiji* (diplomski studij geološkoga inženjerstva). Na doktorskome studiju Rudarsko-geološko-naftnoga fakulteta Sveučilišta u Zagrebu bila je nastavnica iz kolegija: *Naftna hidrogeologija* i *Operacijska istraživanja u hidrogeologiji*.

U Kemijsko-tehnološkome obrazovnom centru u Zagrebu održavala je nastavu iz dvaju kolegija: *Inženjerska geologija i hidrogeologija* te *Geologija ležišta nafte, plina i ugljena*, u razdoblju od 1983. do 1988. godine. Na Prirodoslovno-matematičkome fakultetu Sveučilišta u Zagrebu održavala je nastavu iz kolegija *Hidrogeologija*, neprekidno od 1997. godine, a na Građevinskome fakultetu Sveučilišta u Zagrebu održavala je nastavu iz kolegija *Geologija i petrologija*, u razdoblju od 1985. do 1990. godine.

Od brojnih zaduženja u nastavi, kojih se od 1992. godine prihvaćala i vrlo savjesno ih obavljala, ukratko se navodi najvažnije:

- voditeljica ljetne prakse za studente geologije
- predsjednica Povjerenstva za upis studenata u prvu godinu preddiplomskih i diplomskih studija Rudarsko-geološko-naftnoga fakulteta Sveučilišta u Zagrebu
- koordinatorka Rudarsko-geološko-naftnoga fakulteta Sveučilišta u Zagrebu pri Agenciji za znanost i visoko obrazovanje
- predsjednica Povjerenstva za završne i diplomatske ispite na Rudarsko-geološko-naftnome fakultetu Sveučilišta u Zagrebu.

Na početku svoje sveučilišne karijere, 1981. godine, izradila je – zajedno s prof. emeritusom Darkom Mayerom – primjere za udžbenik prof. dr. sc. Pavla Miletića i prof. dr. sc. Marije Heinrich Miletić: *Uvod u kvantitativnu hidrogeologiju*.

Autorica je triju sveučilišnih udžbenika: *Hidrogeologija I* – prvo izdanje bilo je 2006. godine – te dvaju u suautorstvu: *Metode operacijskih istraživanja u hidrogeologiji*, koji je objavila 2011. godine u suautorstvu s prof. dr. sc. Kristijanom Posavcem, te *Hidrogeologija – primjena u graditeljstvu*, koji je objavila 2012. godine u suautorstvu s prof. dr. sc. Tatjanom Vlahović.

Kruna nastavnoga rada i ono što trajno ostaje iza nastavnika jest njegov pisani nastavni materijal. Smatramo kako ovdje treba posebno ukazati na prvi sveučilišni udžbenik profesorice Andree Bačani, koji je njezino samostalno djelo.

Udžbenik prof. dr. sc. Andree Bačani: *Hidrogeologija I*, bio je predstavljen u Hrvatskim vodama u Zagrebu u organizaciji Hrvatskoga hidrološkog društva, a po izričitoj želji autorice (u čije razloge se sada neće ulaziti) tiskan je kao sveučilišna skripta. Međutim, taj pregledno i sažeto opisan nastavni materijal, s jasnim definicijama svih osnovnih hidrogeoloških pojmova i sjajnim opisima temeljnih postupaka, predstavlja prvorazrednu knjigu, udžbenik, pa i priručnik, a nikako ne samo skriptu. To se može zaključiti već pri prvome susretu s tom knjigom, a što je na najbolji mogući način potvrđeno, jer je od autorice bilo zahtijevano nekoliko dodatnih izdanja toga udžbenika, nakon što je redovito bio rasprodan. Ovaj udžbenik ima trajnu vrijednost, a posvetila ga je osobama koje su joj najviše značile u životu: kćeri Lauri i sinu Bruni.

Profesorica Andrea Bačani bila je posebna osoba u svakome pogledu. Svojim cjelokupnim radom dala je izniman doprinos ukupnoj znanstvenoj, nastavnoj i stručnoj zajednici, Rudarsko-geološko-naftnomu fakultetu Sveučilišta u Zagrebu, a posebno svojem Zavodu za geologiju i geološko inženjerstvo, čiji je bila član i koji je u dvama mandatima kao predstojnica Zavoda uspješno vodila. Njezini su je kolege uvažavali i cijenili zbog stručnosti i predanosti hidrogeologiji. Iznimno je voljela svoj posao i s velikim je entuzijazmom radila na svakome projektu, kao voditeljica, ali i suradnica u timu. S velikim oduševljenjem prihvaćala je sve profesionalne

izazove. Dala je izniman doprinos u obrazovanju mnogih današnjih inženjera i znanstvenika, koji su od nje naučili temelje hidrogeologije.

Njezini su je studenti voljeli i iznimno su cijenili njezina predavanja, a osobito jednostavnost izražavanja i lakoću prenošenja svih, pa i najzahtjevnijih, hidrogeoloških tema na jasan i razumljiv način. To se vidi i iz podataka o posjećenosti njezinih predavanja, kao i iz podataka o mentorstvu sedam doktorata, dvaju magistarskih rada i preko 60 diplomskih i završnih radova. Prosječna ocjena, kojom su je na osnovi provedenih anketa ocjenjivali studenti, uvijek je bila iznad prosječne ocjene u odnosu na sve nastavnike, kako na Rudarsko-geološko-naftnome fakultetu, tako i na Sveučilištu u Zagrebu. Za svako predavanje koje je održala prof. dr. sc. Andrea Bačani redovito se unaprijed temeljito pripremala, bilo da su ta predavanja održavana kao redovita nastava ili su to bila pozvana predavanja. Posebnu brigu vodila je o terenskoj nastavi u smislu osmišljavanja, organiziranja i redovitoga održavanja.

Doprinos profesorice Andree Bačani, koji treba posebno naglasiti, jest onaj ljudski, jer ona je prije svega bila iznimno draga i dobra osoba. Jednostavnost i neposrednost u komunikaciji, toplina kojom je zračila, senzibilnost prema svima koji su u potrebi i odnos pun povjerenja prema svojim suradnicima, kolegama i studentima njezine su vrline koje su za nju bile tako prirodne, a nama svima koji smo ju poznavali tako posebne. Vrlo rijetko doživimo da nas netko svojom osobnošću i karakterom, svojom naravi i vedrinom tako dotakne da nas na svaki mogući način oplemeni i učini boljim ljudima. Naša draga Andrea je bila sve to i puno, puno više. Bila je prije svega čovjek u punome smislu te riječi.

Uvijek je bila dobro raspoložena, uvijek spremna za putovanja i ekskurzije, za skokove u vodu sa slapova s kojih se i puno mlađi nisu usudili skočiti, jednostavno je obožavala prirodu i putovanja.

Više od svega voljela je svoju djecu, ponosila se uspjehom na studiju kćeri Laure, ronilačkim pothvatima sina Brune i uvijek bi za njih učinila sve.

Naša draga Andrea bila je osoba od velikoga povjerenja i iskrena podrška svima nama. Hvala joj za sve što je bila i što je pružila kao naša kolegica i prijateljica. Ostavila je neizbrisiv trag na našem Zavodu i Fakultetu. Na tome smo joj svi neizmjereno zahvalni.

## Autori:

**Zoran Nakić** (redoviti profesor), **Darko Mayer** (redoviti profesor u mirovini), **Kristijan Posavec** (redoviti profesor), **Ranko Žugaj** (redoviti profesor u mirovini), **Jelena Parlov** (docent), **Dario Perković** (docent), **Zoran Kovač** (doktor znanosti).