

IN MEMORIAM

Professor Assoc. Jozefita Marku

Naša poštovana koleginica prof. dr Jozefita Marku bila je predavač na Prirodno-matematičkom fakultetu Sveučilišta u Tirani, do 25. oktora 2015. godine. Iako je njena akademска i naučna aktivnost prerano prekinuta, njen nasleđe je veoma bogato na oba polja aktivnosti.

Na akademskom polju, kroz predavanja koja je izvodila i drugim nastavnim aktivnostima uvek je iznosila savremena saznanja o temama o kojima je pričala. Njeni studenti su cenili njenu kompetentnost i jasnost u izlaganju predmeta, i jednako su cenili njenu posvećenost i brigu kako bi izazvala njihovu pažnju i želju da budu uključeni i da se bave naučnim radom.

Generacije studenata i stručnjaka će imati koristi od objavljenih udžbenika i predavanja iz predmetima koje je izvodila na različitim nivoima studija od Bachelor to Doctorate na predmetima: "Design and Economics of Chemical Processes", "Quality Control of Chemical Products", "Ecologic Building Materials", "Structure of silica and silicate", "The Inorganic Chemical and Environment Technology", "Process design", "Chemistry and physics of silicates", itd.

Pored akademске aktivnosti, profesorka Jozefita Marku se bavila i naučnim istraživanjima. Njena strast za istraživačkim radom su otkrili i negovali njeni profesori od kada je studirala na Prirodno-matematičkom fakultetu Univerziteta u Tirani.

Kasnije, na Institutu za istraživanje tehnologija građevinskih materijala (Tirana, Albanija), gde je bila zadužena za dizajn tehnologije i rukovodilac analitičke i fizičko-hemijske laboratorije, imala je priliku da se bavi naučno-istraživačkim radom i sarađivati sa svojim profesorima na brojnim temama kojima su bile potrebne teorijske osnove i laboratorijska ispitivanja.

Tokom vremena, kada je bila predavač na Građevinskom fakultetu (Politehnički univerzitet, Tirana) i redovni predavač na odseku Industrijske hemije, Prirodno-matematičkog fakulteta (Univerzitet u Tirani), trudila se da se angažuje studente u istraživačkom radu koristeći eksperiment kao nezamenljivu "alatku".

Naučnoistraživačku delatnost profesorce Jozefite Marku bila je usmerena na rešavanje problema iz prakse. Studirala je, eksperimentisala je i predložila konkretnе mere u zaštiti životne sredine i u oblasti hemijske korozije maltera i betona koja su uticala na njihovu trajnost.

U okviru životne sredine, značajno mesto ima njena studija "Hemiska i tehnička obrada prirodnih sirovina i industrijskih i urbanih otpadaka" i niz naučno-istraživačkih radova o mogućnostima korišćenja industrijskog otpada kao sirovine u građevinskoj industriji, objavljenih u međunarodnim časopisima.

U okviru UNIDO programa za čistiju proizvodnju, ona je dala vredne preporuke revidiranim proizvodnim linijama za smanjenje proizvodnog otpada i potrošnje energije, koje, kada su implementirane, rezultirale su profitom u zaštiti životne sredine i u poslovanju.

Profesorka J. Marku je bila prva osoba u Albaniji koja je pokrenula pitanje problema blagovremenog ispitivanja pogoršanja i naglog kolapsa betonskih konstrukcija zbog razvoja hemijske reakcije u betonskoj strukturi, što je posmatrano i proučavano i u svetu.

Godine 2003. predstavila je "Studija o potencijalnoj ekspanziji aktivnih agregata u betonu od Alkali-Silica". Tri godine kasnije profesorka J. Marku je predstavila i studiju "Alkali-Silica potencijal ekspanzije agregata reke Erzeni i rizik od korozije u betonima proizvedenih sa njima". Ova studija, koja se izvodi u Albaniji u skladu sa razvijenom metodom na osnovu laboratorijskih eksperimenata, potvrđena laboratorijskim testovima na Tehničkom univerzitetu Bergakademie, Friburg Nemačka, pokazuje da agregati rečnog korita Erzeni nisu potpuno "inerti"(kao što je ranije razmatrano), jer u određenim uslovima oni imaju mogućnost da razviju reakciju alkalinog

silicijuma (ASR) unutar betonskih konstrukcija proizvedenih sa njima. Proizvod ASR-a može prouzrokovati mini pukotine unutar betonske strukture, koje će se vremenom razvijati i dovesti do pogoršanja trajnosti i čak kolapsa betonske strukture bez bilo kakvih spoljnih naznaka.

Ovaj zaključak ima veliki uticaj na građevinsku industriju ne samo zato što se agregati reke Erzeni najviše koriste u Albaniji, već i zbog toga što podižu svest o riziku koji svaki agregat može imati u ovom obimu i zato što studija daje metod testiranja agregata kao i načinima ublažavanja i sprečavanja rizika.

Profesorka J. Marku je bila veoma aktivna u akademskoj i naučnoj zajednici u zemlji i inostranstvu. Saradivala je sa mnogim uvaženim univerzitetima, profesionalnim udruženjima i kolegama na zajedničkim projektima i naučnom radu kao: Tehnički univerzitet Bergakademie, Friburg Nemačka; Nemački institut za standardizaciju, Berlin, Nemačka; Danska asocijacija za standarde, Kopenhagen, Danska; Nacionalni centar za nanotehnologiju Univerziteta Bilkent, Ankara, Turska; Udruženje za životnu sredinu Ballkan, itd.

Studenti, njene kolege i saradnici pamti će profesorku Jozefite Marku ne samo kao talentovanog predavača i revnosnog naučnika, već i kao divnu i dragu osobu. Ona nije bila samo lepa žena, već i osoba sa karakterom i manirima prikazanim svuda i u svim njenim formalnim i neformalnim komunikacijama. Uvek je bilo zadovoljstvo razgovarati, saradivati i posebno raditi sa Jozefitom.

Pre tri godine izgubili smo prijatelja, divnu ličnost, ali ima puno toga što je ostalo od Jozefite, uključujući i dve njene kćeri, Enxhi i Julia, koje pod očevim nadzorom napreduju stazama svoje majke.

guest editor Prof.dr Kozeta Vaso

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Professor Assoc. Jozefita Marku

Our dearest and unforgettable colleague Mrs. Jozefita Marku was lecturer at the Faculty of Natural Sciences of the University of Tirana until she passed away on 25th of October 2015.

Although her academic and scientific activity was interrupted too early by a sudden incurable disease, her legacy is rich in both fields of her activity.

In the academic field, in the lectures she delivered and other teaching activities, an added value to the subjects was her experience as chemical engineer and scientific researcher always in contact with contemporary knowledge on the subjects. Her students appreciated her competency and clearness in treating the subjects but equally they appreciated her dedication and care to arouse their desire to be involved and deal with scientific research.

Generations of students and professionals will benefit from her published updated textbooks and lectures covering the subjects she delivered in different levels of study from bachelor to doctorate on the “Design and Economics of Chemical Processes”, “Quality Control of Chemical Products”, “Ecologic Building Materials”, “Structure of silica and silicate”, “The Inorganic Chemical and Environment Technology”, “Process design”, “Chemistry and physics of silicates”, “Chemical and Technological Processing of Natural Raw Materials and Industrial and Urban Waste”, etc.

Besides the academic activity professor J. Marku was also engaged in scientific research. Her passion for research work was detected and nurtured by her professors since she was student at the Faculty of Natural Sciences of University of Tirana, during period 1982-1987.

Later, at the Institute for Research on the Technology of Building Materials (Tirana, Albania), where she was charged with technology design and as head of Analytical and Physico-chemical Laboratories, she had the opportunity to be engaged in scientific research work and to collaborate with her professors (then her colleagues) on a number of themes that needed theoretical study and laboratory tests.

During the time when she was part-time lecturer at Faculty of Civil Engineering (Polytechnic University) and when she moved in 2003 as full time lecturer at the department of Industrial Chemistry of the Natural Sciences Faculty (University of Tirana) she strived to engage her students in research work using the laboratory as an indispensable tool.

The scientific research activity of professor J. Marku was problem solving oriented. She studied, experimented and proposed concrete measures in defence of environment and in the field of Chemical Corrosion of Mortars and Concretes affecting their Durability.

To the benefit of environment, an impact has her study on “Chemical and Technological Processing of Natural Raw Materials and Industrial and Urban Waste” and a number of scientific research papers on the possibility of using the industrial waste as raw materials in building industry published mainly in international journals.

In the scope of UNIDO programme for Cleaner Production, she gave valuable recommendations to the audited production lines for reducing production waste and energy consumption that when implemented resulted in both environment and business profit.

Professor J. Marku was the first person in Albania to raise the problem of timely deterioration and sudden collapse of concrete structures due to the development of a chemical reaction inside the concrete structure that even in the rest of the world is recently observed and studied.

In 2003 she presented the “The study on Alkali-Silica Potential Expansion of Active Aggregates in Concretes”. Three years later professor J. Marku presented her study on “Alkali-Silica Expansion Potentially of Erzeni Riverbed Aggregates and the Risk of Corrosion in Concretes produced with them”. This study, that is carried out in Albania according to the recently developed method of laboratory experimentation for the field of study and the results are certified by laboratory tests in Bergakademie Technical University, Freiberg Germany, shows that the Erzeni riverbed aggregates are not fully “inert” (as considered before) but, in certain conditions, they have the possibility to develop the alkali silica reaction (ASR) inside the concrete structures produced with them. The product of ASR having expanding character may cause mini cracks inside the concrete structure that will develop in time and lead to deterioration of durability and even collapse of the concrete structure without any external notable sign.

This conclusion has an impact on the building industry not only because the Erzeni riverbed aggregates are most exploited in Albania but also because it raises the awareness on the risk that every aggregate may have in this scope and because the study gives the method of aggregate testing as well as the ways to mitigate and avert the risk.

Professor J. Marku was very active in the academic and scientific community in country and abroad. She collaborated with many distinguished universities, professional associations and colleagues on common projects and scientific work as the Bergakademie Technical University, Freiberg Germany; the German Institute of Standardisation, Berlin, Germany; the Danish Standards Association, Copenhagen, Denmark; the National Centre of Nanotechnology of the University of Bilkent, Ankara, Turkey; Balkan Environmental Association, etc.

The students and her colleagues and collaborators will remember Prof. Jozefita Marku not only as a talented hardworking lecturer and zealous scientist but also as a lovely and well-loved person. She was not only a beautiful woman in the portrait but also in her character and her manners shown everywhere during all her formal and non-formal communications. It was always a pleasure to discuss, collaborate and especially to work with Jozefita.

Three years ago, we lost a friend, an honoured personality but there is a lot that remains from Jozefita including her two daughters Enxhi and Julia that under their father's care are progressing in the footpaths of their mother.

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