OBITUARY

Academician Professor Gjuro Dezelic, PhD (1935-2024)

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On Friday, September 27, 2024, Professor Gjuro (Đuro) Deželić, chemist, medical informatics specialist and diplomat, died in Zagreb at the age of 90. Professor Deželić was the founder of the university teaching of Medical Informatics, from 1975 full professor of Medical Informatics at the Faculty of Medicine in Zagreb and head of the Department of Informatics at the "Andrija Štampar" School of Public Health in Zagreb. He was associate of the Institute of Physical Chemistry of the University of Zagreb (1963– 1971) and the Ruđer Bošković Institute (1968–1975), scientific advisor of the University Computing Center. He dealt with physical chemistry of colloidal systems and macromolecules and physical biochemistry, studied light scattering of pure liquids and their mixtures and dispersed macromolecular and colloidal systems. In the field of Medical Informatics, he was engaged in the design of health information systems in Croatia. He won the "Ruđer Bošković" Award for scientific work (1975). In periods 1992–1993 he was appointed Grand Master of the "Brothers of the Croatian Dragon" Society (Veliki meštar Družbe "Braća Hrvatskoga Zmaja"). From 1993 he served as ambassador in Denmark, and from 1996 to 2000 in Slovakia. Đuro Deželić is the great-grandson of Gjuro Stjepan Deželić, who, together with Đuro Gajdek, is the author of a book about the father of Croatian firefighting. Đuro Deželić obtained the title of Doctor of Science in that field in 1960 at the same faculty. He completed his postdoctoral training in the field of physical chemistry in 1965-1966 in the USA at Indiana University in Bloomington, Indiana. He later trained in the field of general informatics and medical informatics in Italy, Great Britain, France, Belgium and Japan. Đuro Deželić was Former President of Yugoslav Association of Medical Informatics (YAMI), Former President of Croatian Society of Medical Informatics (HDMI) and EFMI Council member 1990-1992 (EFMI). He was one of pioneers of Medical informatics in Europe and the world. With pioneers of Medical informatics professors: Stefan Adamic in Slovenia, Rajko Vukašinović in Serbia and Izet Mašić in Bosnia and Herzegovina in the late 80s of the last century he formed Yugoslav Association of Medical Informatics (YAMI), which became official member of EFMI and IMIA in 1990. In this text I added my interview with Professor Deželić which I made a few years ago and published in EFMI Inside magazine in 2020, deposited on www.efmi.org.

Keywords: Gjuro (Djuro) Deželić, Medical Informatics. HDMI, IMIA, EFMI. YAMI.

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Gjuro (Đuro) Deželić (1935-2024), academician and full professor of Medical informatics at several universities in former Yugoslavia (1-4) is one of pioneers of Medical informatics in Europe and the world (5-11). With pioneers of Medical informatics professors: Stefan Adamic in Slovenia, Rajko Vukasinovic in Serbia and Izet Masic in Bosnia and Herzegovina in the late 80s of the last century he formed Yugoslav Association of Medical informatics (YAMI), which became official member of EFMI and IMIA in 1990 (12-20).

Đuro Deželić was born in Zagreb, Croatia (1-3). After graduating chemistry in 1958 at the Faculty of Science of the University of Zagreb, he earned his PhD in chemistry in 1960 at the same institution. He began his academic career at the Department of Physical Chemistry of the Faculty of Science in 1958, and after completing his military service. He became in 1964 assistant professor at the Andrija Štampar School of Public Health, School of Medicine of the University of Zagreb (4-10). During his postdoctoral fellowship in 1965-1966 at the Indiana University (IU) in Bloomington, Indiana, USA, while working in the field of light scattering of dense liquids and macromolecular systems, he started to work in the IU Computer Center by developing computer programs for his research. Returning to Zagreb, he expanded his interests in computer science to the general areas of informatics, especially to the use of computers in medicine

Figure 1. Gjuro (Đuro) Deželić (1935-2024)

and healthcare, thus entering this at that time a new emerging field, called now (bio) medical informatics. During following years he could expand his informatics horizons in Italy, the UK, France, Belgium and Japan. After advancing to the associate professorship in 1970, and being appointed 1973 head of the Computing Laboratory of the Andrija Stampar School of Public Health, he became in 1975 full professor of medical informatics at the School of Medicine in Zagreb. He ended his academic career as full professor with the permanent title and retired in 2001.

During the first period of his scientific activity, predominantly in physical chemistry and macromolecular science, he was also engaged as a senior research fellow at the "Rugjer Boskovic Institute" in Zagreb from 1968 to 1975. In 1971 he was one of the founders of the Postgraduate Study of Macromolecular Science at the University of Zagreb and its first head. During this period he also served as a member of the Editorial Board of "Croatica Chemica Acta" (1966-1980) and it's Advisory Board (1980-1990). His teaching activity in Medical informatics started at the School of Medicine in Zagreb in the academic year 1970/71, both for undergraduate and graduate medical students. As a visiting professor he taught medical informatics at other Croatian schools of medicine (Osijek, Rijeka, Split), as well as at many medical schools and institutions in former Yugoslavia, (Ljubljana, Maribor, Sarajevo, Skopje), doing pioneering work for this discipline in that part of Europe. In 1984 he founded the Postgraduate Study "Health Information Systems" at the Medical School in Zagreb and was its first director until 1993. The study has been enrolled by a notable number of students from Croatia, but also from other parts of former Yugoslavia, being the basis for education of first medical informatics specialists in the country. He was also one of the founders of the University Computing Center in Zagreb, which introduced 1972 in Croatia distributed data processing via a network of terminals in all Croatian university centers of that time (Osijek, Rijeka, Split, and Zagreb). In this center he served from 1980 to 1983 as head of its Sector for research, teaching and development.

Gjuro Dezelic published more than 150 scientific and professional papers as well as several textbooks and monographs, among them the first Croatian textbook on medical informatics. In 1975 he was awarded with the "Rudjer Boskovic" prize for scientific achievements. After being elected in 1991 associate member of the Croatian Academy of Medical Sciences, since 1994 he is its full member. He is the founder of the Croatian Society for Medical Informatics (CSMI 1989.), being its first president and a representative to the European Federation for Medical Informatics (EFMI) and the International Medical Informatics Association (IMIA). Since 2004 he is elected honorary president of CSMI. After the retirement he was mostly devoted to the problems of standardization in medical informatics, and was one of the initiators of the founding in 2002 the Croatia HL7 International Affiliate, serving as its first President until 2008, when he was elected as its honorary president. At the 22nd International EFMI Congress "Medical Informatics Europe 2009" in Sarajevo (August 30 – September 2, 2009), as a participant of the first EFMI Congress in Cambridge (1978) (Figure 2) and longtime member of the EFMI Council, he was invited to present a keynote lecture

In 2016, Đuro Deželić donated to the Croatian Academy of Sciences and Arts an extremely valuable laboratory diary of his father Mladen Deželić, a respected university professor, founder of Chemistry at the Faculty of Natural and Mathematics Science and Faculty of Medicine of the University of Sarajevo and former Secretary of the Academy of Sciences and Arts of Bosnia and Herzegovina. The conservation of the Bašća tablet (Baščanska ploča) was carried out after the tablet was transported from Baška to Zagreb in 1934 to the Academy's palace, where after conservation it was displayed in the atrium (1-3). Chemist Mladen Deželić found a method by which the plate was washed with large amounts of water. This procedure, which was called the "treatment of the Bašćanska ploča", stopped its further deterioration and enabled better readability of the text, which was described in detail by Deželić in the Annals of the Croatian Academy of Sciences and Arts in 1943 in the text Baščanska ploča and najna conservation (1, 2).

Interview with Professor Đuro Deželić has been published in EFMI Inside magazine and Acta Informatica Medica journal

I.M.: This interview was planned for the first issue of „EFMI Inside", but your health condition prevented it. The reason for making this interview was a picture, from your collection, from the MIE '79 Congress in Berlin, published in the first issue of EFMI Inside (on page 14), in which you actively participated. The details from that and the following MIE congresses are, unfortunately, modest, and you are one of the few living participants from that period. Can you list some events and describe their actors whose contribution to the development of MI is illustrative, so that the younger generations of MI experts and professionals can experience them, at least through this text?

G.D.: The Congress of „Medical Informatics Berlin 1979" (September 17-20) was the second EFMI congress, held in West Berlin (a part of Belin then governed by France, the United States and Great Britain, and the remaining part of which was the capital of the then Democratic Republic of Germany). At that time, as early as 1970, as a professor at the Faculty of Medicine in Zagreb, I taught medical informatics as a compulsory subject to undergraduate and postgraduate students - future doctors. At the same time, I led the project of creating the Health Information System of the City of Zagreb (ZIS), which was based on the application of medical informatics methods. When EFMI organized its first congress in Cambridge, UK (September 4-8, 1978), the health authorities of the Croatian capital considered it important that ZIS designers, under my

Figure 2.Panelists at MIE '79, Berlin, FR Germany, 1979: John Anderson,Francis Roger France, Klaus Peter Adlassnig, Jochen R. Moehr, Gjuro Dezelic (from left to right)

leadership, participate in that congress, because health information systems were one of the theme of the congress. This is how the first contacts of Croatian medical informatics with the leading people of EFMI came about. It was especially important to me that I met there the colleagues who were engaged in education in medical informatics. When the panel on education in medical informatics was included in the program "MI Berlin 1979", I was invited to participate in that panel as a long-term teacher of medical informatics to medical students. The topic of my paper was „Educational Problems in Teaching Health Informatics to Medical Students", and it was published in the congress proceedings. The panel was led by John Anderson, and also featured Francis Roger France, Klaus Peter Adlassnig, Cristopher J. Dickinson and Jochen R. Möhr. Of the EFMI leaders, I have continued to maintain contacts in particular with Hans Peterson, Barry Barber, Rolf Hansen, Peter Reichertz, Francois Grémy, Jean-Raoul Scherrer and Stellan Bengtsson. All of them have contributed to the development of medical informatics, and our younger generations will find a lot of information about them in the „Biographical Lexicon of Medical Informatics" which you wrote.

I.M.: I was one of yours students among several thousand whom you taught at universities throughout the former Yugoslavia, just in the years of the aforementioned MIE congresses, which you described above. In your lectures, we acquired the first and for that time period, comprehensive and essential contents on MI, but also the aspects nurtured by the main „schools of MI" - Anglo-Saxon (Abbot, Anderson, etc.), French (Gremy, Remond, etc.), German (Reichhertz). et al.), American (Collen, Green, et al.), whose terms „Health Informatics" (Abbot) and „Medical Informatics" (Gremy and Reichertz) have entered the European and world medical literature. Why did you decide in those years to use the term Health more than Medical informatics in the former Yu spaces (your first lecture notes and first textbook were with that title). What was the difference. G.D.: Part of the answer to your question can be found in the text of my paper at the 1979 MIE Congress in Berlin mentioned in the answer to your previous question. In the part of the text entitled „The Development of Curricula in Medical Informatics at the Medical Schools in Yugoslavia" it literally reads (on p. 77): „In 1970 the Medical Faculty in Zagreb introduced compulsory appreciation courses in medical informatics at the undergraduate and postgraduate levels for all medical students. A very strong impetus to the development of medical informatics on both teaching and research was given by setting up the University Computing Center in Zagreb in 1972 operating a UNIVAC 1110 Computing System with the installation of interactive terminals at the School of Public Health. (in Zagreb) "....." Since in Zagreb a health information system is planned in

Figure 3. Participants of MIE '88, Oslo, Norway: Jan van Bemmel, Bjarte G. Solheim, Jaap Noothoven van Goor, Gjuro Dezelic, Nada Dezelic, Barry Barber, Maureen Scholes, Angelo Serio, Francis Roger (from left to right)

the near future, a proposal for a two-year postgraduate program in "Health Informatics" has been made". From such formulations it clearly follows that the terms „Medical informatics" and „Health informatics" were considered synonymous, but in the former Yugoslavia areas (with a socialist society organization, in which there was no private medical practice) the adjective „health" was preferred.

With the appearance of the international associations IMIA and EFMI, the name Medical Informatics finally prevailed in our country. This can be well seen in the titles of university textbooks that I am the author of. The first of them, issued with the approval of the Publishing Committee of the Assembly of the University of Zagreb in 1976, has a „neutral" title „Fundamentals of Informatics" and was published in several editions. The second was published as the 10th volume in the Library of Textbooks and Manuals of the Faculty of Medicine, University of Zagreb in 1986, is entitled „Health Informatics" and by 1989 had three editions. The last textbook under my name was published by the Croatian Society for Medical Informatics in Zagreb in 1997 and is entitled „Medical Informatics". Today, a modern university textbook of the same title „Medical

Figure 4. Professor Deželić, as participant at MIE 1990 Congress in Glasgow

Informatics“ (the official textbook of the universities of Zagreb, Rijeka, Osijek and Split) can be obtained on the market in Croatia. It was published by Medicinska naklada in Zagreb in 2009, edited by Josipa Kern and Mladen Petrovečki. The authors are 42 Croatian medical informatics (and I am one of them) experts, and you were one of the four reviewers. The description of that book on the internet portals reads as follows: „The textbook deals with medical informatics issues relevant to students of medicine, dentistry, nursing and similar medical and health fields. It is intended for all current and future health professionals - doctors, dentists, medical biochemists, pharmacists, sanitary engineers, nurses and technicians, and all other health professionals and health professionals who encounter the use of information technology on a daily basis“.

I.M.: In the late 1980s, you led a team from the former Yugoslavia republics that, after founding societies/associations in those republics that brought together qualified people in the field of health informatics, founded the Federal Association for Medical Informatics - YAMI. YAMI organized the First MI Congress in Belgrade in 1990 with an impressive participation of over 500 participants. This scientific meeting of MI left positive effects on the later development of MI in Europe and the World. Can you recall of any details about this?

G.D.: YAMI was founded in 1989 in Osijek by the Republic Societies for Medical Informatics in Bosnia and Herzegovina, Croatia and Slovenia, and the Section for Medical Informatics within the Serbian Medical Society. It was decided that the headquarters of YAMI would be in Zagreb, and I was elected as president. At the time of the 1990 MIE Congress in Glasgow at a meeting of the EFMI Council and the IMIA Annual Assembly, YAMI was admitted to the membership of both international medical informatics organizations, but this did not last long. Already at that time, Yugoslavia entered a period of political unrest that led to its disintegration. In the text „Medical Informatics in Croatia - a Historical Survey“ (authors Gj. Dezelic, J. Kern, M. Petrovecki, V. Ilakovac, M. Hercigonja-Szekeres, Acta Inform. Medica. 2014 22 (1): 49-59) this is described in detail (on p. 54). It should be noted here that after the wars against Slovenia and Croatia in September 1991, both MI associations - Slovenian and Croatian - withdrew from YAMI, followed by the MI association of Bosnia and Herzegovina a few months later. After the Republic of Croatia and other republics of the former Socialist Federative Republic of Yugoslavia (SFRJ) were internationally recognized in January 1992 and became members of the UN in May of the same year, the conditions were met for medical informatics companies of the former three Yugoslav republics - Bosnia and Herzegovina, Croatia and Slovenia - to become members of IMIA and EFMI. This happened during the 1992 MEDINFO congress in Geneva.

Figure 5. Djuro Deželić as teacher at Kathedra for Medical Informatics at Faculty of Medicine, University of Sarajevo in 2004.

As the war in Slovenia was relatively short, the Slovenian Society for Medical Informatics was able to quickly organize its first national symposium in the autumn of 1992, and after being admitted to EFMI, it managed to organize the 1999 MIE Congress in Ljubljana. In Croatia, the war lasted longer, so the Croatian Society for Medical Informatics (CSMI) could hold its first national symposium only in 1993, but had to abandon plans made during YAMI to run for the 1998 MEDINFO congress in Zagreb. It was only with the efforts of my successor in leading CSMI, Josip Kern, that the EFMI Special Topic Conference was organized in the Brijuni Islands in 2007. The worst time was for the Medical Informatics Society of Bosnia and Herzegovina (BHSMI), because the armed conflict lasted between March 1992 and November 1995, with the siege of the capital Sarajevo. But even in such a terrible situation, BHSMI, which you led, has had a fruitful activity, amazing in such circumstances, managing to organize professional gath-


Figure 6 and 7. Professor Deželić, as Invited speaker at MIE 2009 in Sarajevo

erings, produce numerous publications and launch the magazine "Acta Informatica Medica". In the post-war period, BHSMI organized national symposia and applied for the MIE Congress, which was held in 2009. In my keynote lecture at MIE 2009 in Sarajevo (Proceedings of XXII International Congress of the European Federation for Medical Informatics, MIE 2009, Sarajevo, 2009. Amsterdam-Berlin Tokyo Washington, DC: IOS Press, 2009, 3-7) I wrote: "We should consider the mandate to organize the MIE 2009 Congress in Sarajevo as the crown of all efforts of Prof. Masic struggling for it for a long time... ". I added that the credit should be given to EFMI, which, by choosing Sarajevo, supported the construction of new medical, biomedical and health-information bridges between the western and eastern parts of the European world".

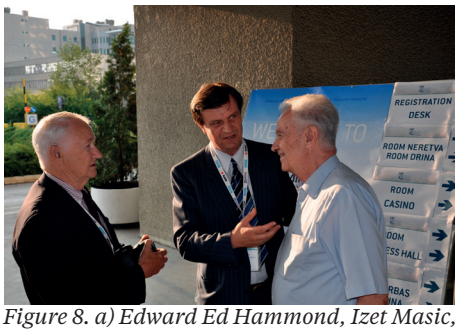

Figure 8. a) Edward Ed Hammond, Izet Masic, Gjuro Dezelic (from left to right), b) Josipa, Kern, Dragica Milinkic, Izet Masic, Gjuro Dezelic, Silvije Vuletic,Jana Zvarova (from left to right)

I.M.: You have been a participant in numerous scientific conferences in the field of MI in Europe and the World. Many have remained in your memory. Which in this case we would like to mention and for what reasons?

G.D.: Regarding my previous answers, it is clear that I most fondly remember my participation as a keynote speaker at MIE 2009 in Sarajevo. Apart from the fact that I can consider it a great recognition of my then 40-year work in medical informatics, I certainly want to point out that, apart from Zagreb, where I was born and where I spent most of my life, Sarajevo is the city of my youth. I lived there for 7 years - from 1949, when I was 14, until 1956 when I returned to my native Zagreb. During that period, I finished high school and began a college degree in chemistry (which I completed with a doctorate in science, as it says in my resume that you published in your popular Biographical Lexicon of Medical Informatics). I made many dear friends in Sarajevo, including you.

I.M.: You come from a respectable Deželić family. Your late great-grandfather Gjuro Stjepan Deželić was an important figure in Zagreb and Croatia. Your late father Mladen Deželić was the initiator of chemical science in BiH and one of the founders of the Academy of Sciences and Arts of BiH in 1966. Yours, ten years diplomatic activity in two European countries has been fruitful. Do you think that the future at the global level, when it comes to socio-political and economic aspects, has gone into a kind of downfall and that the events related to the current events surrounding the COVID-19 pandemic will significantly affect the future of world science globally, so then Biomedical Informatics (a term proposed by Ted Shortliffe in Pisa during MIE 2012 for use).

G.D.: In answer to question 4, it is stated that I am a doctor of chemical sciences. As I was still in high school among those students who loved science subjects and excelled in mathematics, I wanted to become a theoretical physicist. But there was no university to study physics in Sarajevo at that time, so my father advised me to enroll in chemistry, since I would later be able to do research in the field of physical chemistry, which itself has all the features of a theoretical profession based on mathematical methods. When, almost a decade later, as an assistant professor at the Faculty of Medicine in Zagreb, I was on postdoctoral training at Indiana University in the USA, I had the opportunity to work in the computer center of that university and thus enter the „world of informatics". From all the above, it is clear that my way of thinking through schooling in the natural sciences is primarily related to matter (its chemical composition and structure, and the physical laws that govern it, including information describing the events that take place in it). When one wants to think about what will happen in the world in the future from a socio-political and economic point of view, it is good to be an expert in the social sciences. Therefore, to your specific question how much the events related to the COVID-19 pandemic will affect the future of world science as a naturalist, I cannot give an argumentative answer, but only express how I believe that, as before in the history of mankind, science will progress, but with a change in the dynamics of that progress and the ex-

tent of its funding.

Since you mention my ancestors at the beginning of this question, it is necessary to mention that my way of thinking consists not only of what I acquired through schooling (that it is primarily related to matter), but also on my ancestors nurturing (there I will use a quote from my father from his memoirs) „implanted in the heart and soul: with respect for human dignity and the knowledge that only honest work, and with love for neighbor and homeland one can gain full satisfaction in this world". (I.M. - Izet Mašić, G.D.- Gjuro Deželić).

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