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EDITORIAL

It is a tremendous honor and a delightful privilege to celebrate the accomplishments of Dr. Vukadin Leovac, Professor Emeritus at the University of Novi Sad and a distinguished member of the Academy of Sciences and Arts of Vojvodina. We are delighted to present this Special Issue of the *Journal of the Serbian Chemical Society*, which happens to be his preferred journal, in recognition of his 80th birthday. Dr. Leovac's profound influence on the advancement of chemical research and education is not limited to our university alone but extends to institutions throughout Serbia.

Vukadin Leovac was born on 14th March 1943 in the village of Glisnica near Pljevlja, Montenegro, in a large family of farmers. He finished Elementary School in Gradac, and High School in Pljevlja in 1962. It is interesting to say that he enrolled in studies at the Faculty of Law, at the University of Zagreb. Before the start of the first semester, at the end of September, due to the Autonomous Province of Vojvodina scholarship, he transferred to study chemistry at the Faculty of Philosophy at the University of Novi Sad. At the start of the third year of studies, he got a tempting scholarship from the Electronic Industry of Niš (EI--Niš). During that year, thanks to IAESTE he spent two months at practice in the Factory for plastic masses in Bydgoszcz, Poland. After graduation (1966) the committee suggested he apply for the position of teaching assistant for the course Inorganic Chemistry, but due to the obligations of the scholarship he was employed in EI-Niš, as the chief technologist for the production of loudspeaker membranes (Factory „Akustika" in Svrljig).

After the mandatory military service, in December 1969 he transferred to the newly formed Faculty of Sciences, University of Novi Sad as a teaching assistant for Inorganic Chemistry. At the same faculty, he defended the Master's Thesis titled „Synthesis and research on geometric isomerism of some chalogeno-cobalt(III) complexes" in 1975, which made him the founder of scientific research in the field of inorganic and coordination chemistry at his university.

During the academic 1975/76 and 1977/78 year, through the Provincial Committee for bonding with other countries, he spent 13 months at the Faculty of Chemistry in Kishinev (Moldova) under the supervision of the Academician N.

V. Gerbeleu. During this internship, he did the investigation of the coordination chemistry of the isothiosemicarbazide derivatives. These results were crucial for his PhD Thesis „Synthesis and investigation of coordination compounds of 3d--elements with S-methylisothiosemicarbazide and S-methylisothiosemicarbazones“ which he defended in 1978. At the Faculty of Sciences in Novi Sad he became Assistant Professor in 1979, Associate Professor in 1984 and Full Professor in 1989. In 2014 he earned the title of professor emeritus at the University of Novi Sad. After 44 years of work, on 30th September 2011, he retired.

Prof. Leovac has been very successful in his teaching work. He taught different courses in Inorganic and Coordination Chemistry at a modern level, often informing his students about the newest discoveries in chemistry. Except at the University of Novi Sad, he also taught courses at the University of Priština and the University of Montenegro. His laboratory has always been full of undergraduates, MSc and PhD students. Among them, there were also doctorands from other university centers, as well as from abroad, S. Čundak (Ukrain) and K. Cvrkalj (Canada), who are presently known, as university professors and scientific researchers. He belongs to that group of university professors and researchers who generously share his knowledge with students, coworkers, and interested colleagues, which has brought him high popularity and recognition. Thus, it is not surprising that he was the mentor of 12 PhD theses, 4 master theses and more than 80 diploma works, and that he has given enormous contributions and numerous ideas for many other theses and research. For the students in the first year of studies, he wrote a textbook titled “Structure of atoms and molecules” which enables them to establish a great foundation and deep understanding of basic chemical principles by resolving the problems given there. This involved many contemporary examples of the chemical phenomena, which were not easy to collect when the first version of this textbook was written, more than 30 years ago. One of the main advantages of this book is that it is still evolving, and expanding, and thus cannot be addressed as an old, out-of-date book. Nowadays, Professor’s closest co-workers gladly suggest this book as the literature for many courses, and even call it a holy book of general chemistry.

Also, he worked on the education of teachers, and students from high school, to which he held a great number of lectures, and he was included in the work of Research Center “Petnica”.

Prof. Leovac is a founder of the study of Inorganic/Coordination Chemistry at the University of Novi Sad and is the leading researcher in this field in the former Yugoslavia. His scientific interest is in the synthesis, physicochemical, structural and biological studies of complexes containing not only 3d-metals but also Mo, Pd, Pt, U, Cd, and Hg with different classes of O-, N-, S-, P- and Se--binding polydentate organic ligands. Among them prevail the ligands of the type of Schiff-base derivatives of different mono- and dicarbonyl compounds and

(chalcogen)semi/isothiosemicarbazides, oxamic hydrazide, Girard-T reagent, hydrazide of carboxylic acids, aminoguanidine, and others, as well as ligands based on pyrazole derivatives. Numerous of these complexes are synthesized by template reactions, an approach that enabled the formation of metal complexes with the ligands previously unknown in organic chemistry.

He published more than 200 scientific papers including two review papers, in international journals. He is the co-author of a scientific monograph of national significance devoted to the coordination chemistry of S-alkylisothiosemicarbazide derivatives. The great majority of compounds from the publications were the realization of the ideas of Prof. Leovac. His works have been cited 2054 times, excluding self-citations (*h* index 23). He supervised work on many multi-year research projects at both national and bilateral levels.

Of his works, the most important are undoubtedly those (more than 90 publications) concerning transition metal complexes with derivatives of thio- and S--alkylisothiosemicarbazides of different denticity (2 to 8) and sets of donor atoms, among most of which are various tridentate ligands. From this area, we point out the results that represent fundamental contributions to the coordination and structural chemistry of the mentioned ligands:

1. Syntheses of the first metal complexes of S-alkylisothiosemicarbazides which, for more than 40 years were thought not to be capable of forming metal complexes, and for which an NN coordination was found, which is in principle different from thiosemicarbazide (NS), for which a characteristic is a prototropic tautomerism of the isothioureido fragment.

2. Synthesis of complexes with the tetradentate (N_4) pentane-2,4-dione bis(S-alkylisothiosemicarbazones), which among others, give stable complexes also with Fe(IV) in the presence of iodide. K. Wieghardt characterized these results as “fascinating” and “inspiring” (K. Wieghardt et al. *J. Chem. Soc., Chem. Commun.* (1993) 726, *Angew. Chem.* **32** (1993) 1635).

3. Synthesis of dinuclear complexes of Ni(III) with the octadentate (N_8) *noninnocent* ligands, 3,4-diacetyl-2,5-hexanedione-tetrakis(S-alkylisothiosemicarbazones) with interesting structural, electronic, spectral, magnetic and electrochemical properties.

4. Syntheses of complexes with the tetradentate (ON_3 or ON_2P) N1-salicylidene/acetylacetoneimine-*N*-4-*α*-alkoxypicolyl/2-diphenylphosphinobenzyl-*S*-methyliso-thiosemicarbazide.

5. Unique and diverse (five different modes!) coordination of usually pentadentate (N_5) 2,6-diacetylpyridine bis(S-methylisothiosemicarbazone, H_2L) in mononuclear complexes of Mn(II), Ni(II) and Cu(II), and mixed-valence octanuclear Cu(II)-Cu(I) complex $[Cu^{II}_2(\mu\text{-}H_2L)_2Cu^{I}_6(\mu\text{-}Br_8)Br_2]$. This made the coordination chemistry of Novi Sad unique and recognizable in the scientific com-

munity. (V. B. Arion, *Coord. Chem. Rev.* **387** (2019) 348, S. Floquet *et al*. *Polyhedron* **80** (2014) 60).

Another important series of his papers (over 30) is related to complexes of different derivatives of pyrazole. In this field too, Prof. Leovac and his coworkers have made a valuable contribution to the coordination chemistry of this diverse class of ligands. They have found some interesting structures of the synthesized complexes, as well as degradation reactions during the complexation of some of these ligands. There is no doubt that the most important reaction discovered in his laboratory is the unexpected preparation of 3(5)-amino-4-acetyl-5(3)-methylpyrazole, which with the Co(II), Ni(II) and Cu(II) in the presence of triethyl orthoformate, gave complexes with the *in situ* formed tridentate ON_2, a new formamidine-type ligand, *N,N'*-bis(4-acetyl-5-methylpyrazol-3-yl) formamidine, with a unique coordination of the mentioned pyrazole derivative, enabling the synthesis of numerous complexes. In this place, it is important to stress the biological activity of the polymeric complex of Cu(II) with the tridentate ONS Schiff base, a derivative of pyrazolone and thiosemicarbazide and 1-adamantoylhydrazone di(2-pyridyl)ketone, with the cytotoxicity significantly higher than that of cisplatin. Concerning other results, it is worth mentioning the metal complexes with various coordination modes and forms of polydentate condensation product 2,6-diacetylpyridine and semioxamazide/Girard-T reagent, thus enriching the structural coordination chemistry of derivatives of the mentioned dicarbonyl compound. In addition, there are also dinuclear Co(II) complexes and di- and tetranuclear complexes of Cu(II) with the pendant octaazamacrocyclic *tpmc* ligand and with different bridging ligands of interesting geometrical structures of the complexes and of *tpmc* conformations. The research on the coordination properties of aminoguanidine Schiff bases, with pyridoxal, salicylaldehyde and 2--acetylpyridine also stands out. More than 40 complexes of 3d- and 4d-metals with these ligands were isolated in the form of single crystals and their physicochemical and structural properties were investigated in Prof. Leovac's laboratory. Several complexes have shown great photoluminescence, and thus are studied for application in the field of optical materials.

Furthermore, it has to be especially pointed out that a large number of ligands and their complexes were characterized by X-ray structural analysis, which made Prof. Leovac the one scientist credited for more than 50 % of crystal structures determined in Serbia. The synthesis of the majority of these compounds was the idea and the act of Prof. Leovac, who although retired, continues with undiminished enthusiasm, curiosity, and energy to create new ideas, and he is one of the rare researchers who at his age is doing laboratory experiments (syntheses) himself and thus inspires the young colleagues to behave similarly. He rejoices whenever a new result is obtained, especially when it is something

unexpected. His attitude is that “each unexpected (unplanned) result is, as a rule, more interesting and more significant than the expected one”.

It should also be mentioned that Prof. Leovac cooperates not only with scientists from the former Yugoslavia or recently from Serbia but also frequently from abroad. He has reviewed numerous papers for many international scientific journals, but also two doctoral theses from abroad (Pakistan and Moldavia).

Prof. Leovac has been Head of the Chair of Inorganic Chemistry, Director of the Department of Chemistry and President of the Education Council of the Faculty of Sciences. During his mandate as the Director of the Department the foundation of the famous “blue building” was made. Prof. Leovac is a very active member of the Serbian Chemical Society, in which he is currently a Merited Member. He was awarded the October Award of Novi Sad, the Golden Award of the Association of University Professors and Scientists for life’s work, as well as the First Award of the Ministry of Sciences and Environmental Protection of the Republic of Serbia and the Provincial Secretariat for Science and Technological Development. For a long time, he has been acting as a volunteer member of the Association of the Anticancer Societies of Vojvodina and thus has been awarded the Charter of this Association.

The prestigious journal Polyhedron published a special issue in honor of Prof. Leovac’s 70th birthday, demonstrating great respect for his remarkable scientific achievements. This recognition was of significant importance for bolstering the reputation and validation of chemical research at the University of Novi Sad.

Prof. Leovac always suggested that it is important to have a hobby, and his hobbies are daily one-hour-long walks by the kay in Novi Sad, as well as weekend routes throughout the forest of Fruška gora no matter the weather conditions. The latter reminds him of the mountains back in his hometown.

Since our Professor was always fond of publishing papers on special issues dedicated to fellows coordination chemists, we found this way as an appropriate to express our gratitude and admiration, and to wish him good health, many fruitful experiments, and many joyful moments for his 80th birthday.

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After the formal part of the preface, I want to write a few words from a more personal point of view. Back in 2005, I was looking forward to applying for medical studies, and I decided to visit the famous “blue building” of the Faculty of Sciences, just to make a backup plan. Fate seemed to play a hand as the elevator unexpectedly paused between floors, with Prof. Leovac, my father, and me on board. Hailing from Montenegro, and thanks to Prof. Leovac’s warmth and the generosity typical of our people, we received an invitation to his office for a

cup of coffee. I am not sure if it was him talking about his science and teaching, the laboratory itself, the nice people I met there, or, most probably the perfect mixture of everything mentioned, I started to think of myself as a chemist. A few days later, I applied for the studies of chemistry.

During my first year, Prof. Leovac taught us General and Inorganic Chemistry, and some would say it is the basics. But he enabled us to go through our knowledge and rethink everything we think we know, to abstract what we are sure of, and to open our minds to new approaches, and new knowledge, to make corrections to the foundation we thought we had. To this day, I often find myself recalling his famous words: „The rule is that there are no rules!“. The Professor's manner of teaching was truly distinctive, and for me, who was always more of a problem-solver than a definition learner, it was perfect. Later, he led us into the captivating realm of coordination chemistry, the most enchanting offspring of this wondrous scientific discipline, often unjustly overlooked by many students but cherished by those who had the courage and the knowledge to explore it and let it become a part of their lives.

None of my fellow students were surprised when I chose to do my diploma work with Prof. Leovac's team of coordination chemists. Prof. Leovac deserves immense gratitude for shaping me into the chemist I am today and for fostering a harmonious team spirit in our laboratory. While working on my master's and doctoral thesis, even though he was not formally my co-mentor, he was the one who gave my work the essence. Not only did he offer ideas, but he also actively engaged in experiments, provided insights on results and wrote papers with me. We had a daily tradition of taking a break every day around noon, and that is when our Professor would tell us about some new, fascinating, or surprising scientific facts, so interesting that I had made a notebook called "Know-it-all" with the notes from those conversations. Just another reminder that real scientist has no working hours if they are the true ones, like our Professor. Also, even though he has an office, he is almost always in his laboratory, busy working on new ideas and conducting experiments. I truly valued his keen interest in upholding the proper use of our language, a matter that regrettably often goes overlooked, even within academic circles. When the work on the syntheses of single crystals was overwhelming, he was always there as a support, and with a few words like: "You cannot change the nature of the matter, but you could learn how to use it" he could make everything seem perfectly fine. It is an indescribable honor to have learned from the most renowned and respected coordination chemist from our region. He is an endless wellspring of incredible teaching and captivating scientific ideas, and the man who finds happiness in assisting others. Now, after all these years, I can hear my Professor's words echoing during my own lectures, I can see his sentences written by my hand, and witness his ideas sparking a sea of new ones in my mind.

My dearest Professor, ”Greetings for your birthday, and thank you for everything!” seems like too modest a phrase. Instead, I want to express that I will always be proud of being your apprentice and that I hope I was a merit of your trust and worthy to be called your academic heir.

Guest Editor
Prof. Mirjana Radanović
University of Novi Sad Faculty of Sciences

Of Prof. Leovac as a man, supervisor, and colleague his associates testify with words of gratitude, some of which are given here.

I find it hard to remember when I first heard about Professor Vukadin Leovac, but it must have been at the beginning of the eighties during the experimental work on my Ph.D. thesis at the University of Kragujevac. Searching for the literature for my Ph.D. thesis, I often had an opportunity to read his scientific papers published in the most reputable journals of Inorganic and Coordination Chemistry. During that period, the research group of Prof. Leovac from the University of Novi Sad was famous in the field of Coordination Chemistry not only at Serbian universities but many other universities in Europe, too. The scientific results that his research group achieved during that time have been a great motivation to us all working in Inorganic and Coordination Chemistry, especially young scientists. His papers often served as the supporting literature on which we relied for the purpose of structural characterization of coordination compounds by using spectroscopic and crystallographic methods. Later, after I had returned from my postdoctoral stay at the University of London, we established a closer cooperation. Prof. Leovac was a principal leader of numerous national projects funded by the Ministry of Science of the Republic of Serbia. Many scientists from different state universities in Serbia participated in these projects. Along with the University of Novi Sad, he significantly contributed to the development of Inorganic and Coordination Chemistry at the University of Belgrade and the University of Kragujevac. He was a committee member for the defense of many MSc and Ph.D. theses, thus largely contributing to the development of academic and research staff at the above-mentioned universities. Prof. Leovac is particularly and constantly dedicated to advancing the careers of young scientists. His knowledge of chemistry is so vast that it can be concluded that to him chemistry is the meaning of life rather than simply a field of science.

Academician Miloš I. Djuran
Serbian Academy of Sciences and Arts

Prof. Leovac is very esteemed and respected by his colleagues from the Faculty of Chemistry, University of Belgrade, especially from us from the Department of Inorganic Chemistry. His advice, ideas for the themes for the theses, and his thorough examination of different ligand systems coordinated to copper, zinc, nickel, cobalt, vanadium, iron, etc. helped many of us. He was the Doktorvater (mentor) to numerous candidates, some directly, some indirectly. Always ready to share, teach, show, and explain, with a big heart full of passion, especially for surprising results and structures. In both Novi Sad and Belgrade, he left a permanent stamp and influence through many complexes and crystal structures. This expands out of the Serbian border, to Montenegro, Moldavia, and Germany, because of all of us who have learned from him to accept the challenges and develop a love for coordination chemistry.

The results of Prof. Leovac with the unusual Fe(IV) complexes have fascinated and inspired well-known Prof. Karl Wieghardt, from the Ruhr University in Bochum, who mentioned it in two papers in prestigious journals – *Angew. Chem. In. Ed.* **32** (1993) 1635 and *J. Chem. Soc., Chem. Commun.* (1993) 726. The great accomplishment of Prof. Leovac is also the collaboration with Prof. Wieghardt that resulted in a mutual paper in *Inorg. Chem.* **36** (1997) 661.

As a crown of his work, many colleagues from Serbia and abroad have dedicated one Special Issue of one of his favorite journals, the prestigious Polyhedron, with 37 papers, to his 70th birthday.

Dear Prof. Leovac, I wish you many unexpected results and to inspire us further.

Prof. Goran Kaluđerović
University of Applied Sciences, Merseburg, Germany

It is both an honor and a privilege to contribute my personal note to this special issue celebrating Professor Leovac's 80th birthday and acknowledging his remarkable contributions to the field of coordination chemistry.

I first had the privilege of being a student in Professor Leovac's freshman class, and that experience marked the beginning of an incredible academic journey. Little did I know then that his guidance and mentorship would shape my entire scientific career. As my professor, he introduced me to the captivating world of coordination chemistry, laying the foundation for my academic pursuits. Professor Leovac’s lectures were not just lessons; they were an invitation into the realm of scientific endeavor. I was captivated by his teaching practices, particularly his method of using pieces of his own research to illustrate the concepts he was teaching. This unique approach made complex ideas accessible and ignited my curiosity. It was during those moments that my fascination with coordination

chemistry and X-ray crystallography was born. I especially recall when Professor Leovac shared the fascinating details of his synthesis, resulting in octadentate macrocyclic ligands, complexes with exotic oxidation states, and the myriad of unexpected ligand transformations that occurred during template syntheses. It left a profound and lasting influence on me as a student.

As I continued my academic journey through my master's and PhD studies, Professor Leovac transitioned from being my professor to my mentor. We spent countless hours working together in the laboratory, discussing results, and planning our next steps. One of the most enjoyable aspects of working with him was finalizing our research through the process of writing publications. Professor Leovac's mastery of crafting precise statements and sentences is truly remarkable, and it has always been my aspiration to reach the same level of writing skills.

Professor Leovac often emphasized, “It is good when things get complicated,” signifying his belief that there is much more to learn from unraveling intricate synthetic routes and deciphering complex crystal structures. He also had a fondness for celebrating “unexpected results”, not only for their surprising nature but also as a source of inspiration for exploring new and innovative approaches.

Dear Professor Leovac, as you celebrate your 80th birthday, I join the scientific community in wishing you continued good health and happiness. Your wisdom, your contributions, and your presence in our community are truly invaluable. It is an honor to have learned from you and to continue to be inspired by your work.

Prof. Marko Rodić
Faculty of Sciences, Novi Sad

Professor with the capital P, emeritus with the capital E, man–giant, role model, support, and many more represent my dear Prof. Leovac. He is not just my dear professor but the dearest one, thanks to whom, I came to love Novi Sad and all the wonderful people around him. Prof. Leovac had a great impact and has left a valuable mark on the careers of all of them, but also many others throughout the country. Luckily, he is still doing it.

His huge reputation in the field of inorganic chemistry was obvious wherever he went. As a respected and loved professor, he expanded his positive influence on colleagues. I am and always was, proud to have the privilege and the pleasure of working with a man, professor, and scientist like him.

As a crystallographer, I must mention the great contribution of Prof. Leovac to chemical crystallography in Serbia. Like a magician, he made many single

crystals, and he is the one scientist credited for more than 50 % of crystal structures determined in Serbia.

When I look back, the support of Professor Leovac was a decisive influence on my career. He is directly or indirectly the most responsible for my motivation, achieved results, and will for work. I always tried my best to repay him with diligence and effort to meet his expectations.

Dr Goran Bogdanović, principal research fellow
„Vinča“ Institute of Nuclear Sciences, Belgrade

It is a great privilege to have the opportunity to learn from professional and affirmed mentors, respected in a large scientific community. The willingness of the mentor to teach and transfer their knowledge to others is a great advantage, but the special fortune is when that person has sincere kindness and shows interest in your advancement. Prof. Leovac belongs to this rare group of complete scientists, professors, and mentors. He was the mentor to my master's and doctoral thesis, and besides my colleagues from Vinča Institute, he had a substantial impact on my research.

The professionalism of Prof. Leovac is undeniable, but what fascinates the most is his enthusiasm, energy, commitment, devotion, and enjoyment of work, which could be seen in the laboratory. It seemed that he could spend endless hours in ligand modification, and syntheses of the complexes, with constant aim to try novel approaches, and to gain new knowledge. From this point of view, I am the most intrigued by the fact that, after so many years of work, he preserved the curiosity of a scientist at the beginning of their career. This inspires all of us who had the opportunity to work with him.

The results of Prof. Leovac's work are reflected in the impressive bibliography, which confirms his outstanding contributions to the development of coordination chemistry in the region. It really makes me proud that most of these results are documented by crystal structures. We could always count on exceptional crystals that come from his laboratory, some of which were used for the calibration of our diffractometer, instead of the standard crystal. This could not be explained only as the nature of the compounds, but maybe a reasonable mixture of knowledge, skill, and intuitiveness. Besides the outstanding knowledge, Prof. Leovac taught all of us that research is much more than ambition and intelligence. That is why the special place in his achievements represents the number of his hardworking co-workers, and great professionals, my dear colleagues from the Faculty of Sciences in Novi Sad, that he gathered and made what they are now.

I owe Prof. Leovac gratitude for his involvement in my research, and all the knowledge he led me to. It is an honor to know and work with one great maestro of coordination chemistry, a remarkable mentor, and friend.

Dr Slađana Novaković, principal research fellow
„Vinča“ Institute of Nuclear Sciences, Belgrade

I have known Professor Vukadin Leovac for almost half of a century, from my early student days when he was my assistant and professor, and later a colleague. His pedagogical work in the development of young scientists and the quality of scientific research is evident from the numbers and data in his fruitful biography and bibliography presented here. Although I did not closely collaborate with him in teaching and research, I have been a witness to his exceptional scientific potential and significance for our faculty and department throughout these years. Prof. Leovac is more than a colleague; he is a friend, always well-intentioned to help and ready to find the best solution for his collaborators and colleagues in any situation. As the dean of the faculty at the time when Prof. Leovac was promoted to the position of professor emeritus at the University of Novi Sad, it was my special honor to introduce Prof. Leovac to the wider scientific audience and to emphasize his contributions to our university. In those moments, I felt a sense of pride and great satisfaction because I had the privilege of introducing an outstanding scientist and professor who, by all criteria, was far ahead of all other candidates. Prof. Vukadin Leovac was a pioneer in research in inorganic chemistry, especially coordination chemistry, not only at the University of Novi Sad but also on a much broader scale. The extent of his importance is best illustrated by the fact that one of the most prestigious journals in this field, Polyhedron, published a special issue dedicated to his seventieth birthday. With great pleasure, I have written these lines dedicated to Prof. Leovac, who truly deserves to have his eightieth birthday celebrated in this way.

Prof. Emeritus Neda Mimica-Dukić
University of Novi Sad

The most beautiful possessions in life are good friends, colleagues, places, and memories that those moments give.

I have known colleague Vukadin Leovac for more than 40 years, from the early days when he came from Niš to Novi Sad and was elected as an assistant at the Institute of Chemistry at the Faculty of Natural Sciences, while I was an assistant at the Faculty of Technology. In those early years, we led laboratory

exercises on the subject of General and Inorganic Chemistry for students of the Faculty of Technology at the same time. We spent breaks together, discussing and conducting dialogs about research, science, philosophy, life, and ideas on how to best organize exercises for first-year students. Those were wonderful times when experiences, knowledge, and vision of science could be exchanged. I recognized Prof. Vukadin has high potential, love, and passion for coordination chemistry and experimental work. The chemical passion and dedication last his entire career and are still remarkable. It was an extraordinary pleasure to listen to Prof. Leovac's excitement when, as a result of the experiment, he obtained a completely new compound, with a magical color of the complex substance that he hadn't even planned. I remember this period; those were the last years of the 1970s. Memories also take me back to our joint study stay in Halle, East Germany, in the laboratories of the Faculty of Natural Sciences. There, colleague Leovac demonstrated his distinctive dedication to experimental work, commitment, and selflessness toward broad horizons of chemical research.

Prof. Emeritus Mirjana Vojinović Miloradov
University of Novi Sad

I was very fortunate to be introduced to higher spheres of chemistry by Prof. Leovac. His informal style freed from rigidity and narrowness, full of passion for science and knowledge has attracted many of us. One of the main characteristics of good lecturers is the reference to contemporary scientific achievements, which inspire students and make science more interesting. During his lectures, I was breathless when I heard about the existence of quadruple bonds, the ghosts like solvated electrons and alkalide ions, or superacids that could protonate even alkanes. This trip through the periodic table led us to the very edge of human knowledge and it seemed that it has no ending – crowns, cryptands, catenate complexes, phenomena like back-donation, Jan-Theller effect, *etc*. His statement that „only God and a chemist can make a new molecule“ had the most effect on me as a student, and I find it inspiring even today. Not because we chemists want to become gods, but because this sentence elevated my favorite science to the level of a religion.

Prof. Leovac introduced me to the world of chemistry and he was my guide at one of the most exciting travels in my life – those across the endless expanse of the periodic table of elements. The last station on this journey was my diploma work which I have finished under the supervision of Prof. Leovac. I was honored to have contributed to the synthesis of a new molecule, a new complex of copper with hydrazone derivative. Also, at that young age, I was privileged to feel the fulfillment and happiness of taking part in the birth of a new molecule, but also to

be part of a research team, and to feel the delight of working with esteemed Prof. Leovac.

As a university professor myself, I could say that I have learned from one of the best professors and scientists at our University and I am glad to have the opportunity to cite his words during my lectures. In that way, I hope to be an inspiration to my students like he was for many, many generations.

Prof. Boris Popović
Faculty of Agriculture, Novi Sad

Professor Vukadin Leovac is my favorite professor, esteemed colleague, and true friend. His great scientific opus and the will to move and erase boundaries in coordination chemistry, as well as the expanded network of collaborators in academic institutions in Serbia and abroad, made him well-known and dominant in his field. For many decades, he was an associate of the members of the Department of General and Inorganic Chemistry of the Faculty of Chemistry in Belgrade on many scientific projects, in which he was the principal investigator. This resulted in the publication of numerous papers, many master's and Ph.D. theses, and his involvement in the procedures of elections of new professors and teaching assistants at our faculty.

Prof. Leovac teaches with patience and persistence, good energy, and enthusiasm. His charisma, charm, and wit, as well as the professional and friendly relationships, enabled Prof. Leovac to find a direct way to guide every one of his co-workers to new ideas, thorough work practice, and wish to gain new knowledge.

Dear Prof. Leovac, thank you for all your scientific contributions, for every thought and word, advice, and patience. You made us the scientists we are today.

Prof. Sofija Sovilj
Faculty of Chemistry, Belgrade

Prof. Leovac and I have known each other for 25 years, first as a mentor and Ph.D. student and then as friends. Even now, I am sure that my journey would be different if not for his advice and limitless help. But I was not the only one he helped to. Many ideas realized in the papers of Serbian researchers in the field of coordination are his. He was generous not only with ideas, but with the prepared ligands, or precursors, without any demand for co-authorship. I am sure that those unselfish moments of sharing and transferring his knowledge to everyone who

asked for help made him not only satisfied but sincerely happy. Many experienced researchers in Serbian laboratories, but also abroad are his doctoral students.

His knowledge of complex compounds is fascinating, now even intuitive, and his energy as a researcher is wonderful. He is one of the very rare scientists who loves to do his experiments after all these years. Sometimes I think with jealousy that he does not even try the reactions, but „makes deals with the ligands and the central metal ions how to form single crystals“. His word „maybe“ is a path to successful synthesis.

I finish these lines with the citation of the thank you note from my dissertation: „I owe enormous gratitude to Prof. Leovac from whom I plan on keep learning, not only about chemistry but also the pleasure of finding, generous giving and guiding youngers to real values. Without his help, I am sure, this dissertation would not come to an end, and I would, possibly, have been lost away from the scientific roads I chose for my career.“

Prof. Ilija Brčeski
Faculty of Chemistry, Belgrade

Prof. Leovac was the one who brought my associates and me to the wonderful world of the coordination chemistry of hydrazide and hydrazone ligands. This wide field of research enabled us to publish numerous papers in the most eminent international journals and to collaborate with many outstanding professors and researchers both in Serbia, and abroad. For this, we must be thankful to our Prof. Leovac.

I hope that the future will bring more professors like him, but I am sure that we, his contemporaries, will remember his devotion to his research and teaching forever. Besides the teaching mission, our dear Vukadin was a real friend, full of understanding. I find the memories of our conferences, informal gatherings, and trips very dear. So, after 40 years at the University, I have the right to teach the younger generations who prepare for this type of work always to learn from the best. And one of those is surely Prof. Vukadin Leovac.

Prof. Katarina Anđelković
Faculty of Chemistry, Belgrade

Many years ago, when I was at the crossroads of my life and professional roads, dilemmas and doubts, by accident, I met Prof. Vukadin Leovac, who became my friend and my colleague – Vule. The warmth of his wards and his scientific enthusiasm led me to become part of his group of researchers. Now, with this time distance, I am free to say that those years were the most fruitful

period of my research work. Due to Prof. Leovac, I gained the self-confidence, and sometimes fanatic appetite for novel scientific achievement, and by analyzing his approach to science with his advice and suggestions I became what I am today.

If life is supposed to be a game, and science is and always was the core of his life, then science is woven into his game of life which he plays with incredible ease. That is the only way of completing so demanding tasks of making hundreds of crystal structures, by merging the perfect ratio of scientific knowledge, experience, creative intuition, and artistic expression. The amount of different structures of ligands and their metal complexes one must consider art. I was always fascinated by his intuition which manifests the highest level of intelligence, as one of the key requirements for success in scientific research.

I am proud to have a friend like he is – real and honest, unselfish, and always prepared to help, understand, and respect in those moments many would not. Our friendship is solid, mutual, and invincible. I owe him respect and gratitude for many noble lessons from life and science.

Prof. Milan Joksović
Faculty of Sciences, Kragujevac

During the work on my master's thesis, I met Prof. Leovac, who was, later, my mentor for my Ph.D. thesis. His advice during our work together was not just expert, nor distant and strict, but full of the kindness and warmth of a friend. That was something that guided me towards our goal. Prof. Leovac always knew all the details of every experiment I was doing, even though he had numerous candidates under his supervision. He followed and got involved in all the problems and dilemmas of his co-workers with true commitment. At the Chair of General and Inorganic Chemistry and the Faculty for Metallurgy and Technology, University of Montenegro, he kept teaching, until we were able to take over that assignment. His visits to Podgorica brought joy, not only for chemists but other scientists as well. With his cheerful spirit, friendliness, and humanistic approach, he has built many bridges of friendship.

Prof. Zorica Leka
Faculty for Metallurgy and Technology, Podgorica, Montenegro

As a colleague and former Ph.D. student of Prof. Leovac, I must stress it is, and always was my honor and privilege to have the opportunity to meet him and work with him. He made that stressful period of working on my Ph.D. thesis,

which involved regular work hours in Podgorica, while trying to find time to go to Novi Sad and do experiments, full of dear memories. Always there to help as an expert, a professor, with advice and new ideas, but above all as a human, a friend, sincerely, he was the best support I could have asked for. He made me express real joy whenever we get a new single crystal, good result, or idea and that is what, nowadays, I obliged myself to teach the new generations.

The collaboration with Prof. Leovac and his colleagues, my dear friends from Novi Sad, is still successful and fruitful, and we plan to keep it on the nice path our Professor has pointed us to.

Prof. Željko Jaćimović
Faculty for Metallurgy and Technology, Podgorica, Montenegro

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Concluding Editorial remarks

It is great pleseaure for me to underline that the decision of the Serbian Chemical Society to publish the issue dedicated to the occasion of the jubilee of Prof. Vukadin Leovac 80th birthday is a real recognition to his achievements to Chemistry, especially to Inorganic Chemistry, and also to the recognition of his friendly and warm relations to collegues, students and people in general.

On behalf of your coleagues and friends, thank you Vule for all our relations! We wish you all the best for the years to come.

Prof. Branislav Nikolić
Journal of the Serbian Chemical Society Editor in Chief
Honorary President of the Serbian Chemical Society