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Željko Kućan – *curriculum vitae*

Professor Željko Kućan, a dedicated scientist and teacher of biochemistry, was born in Zagreb on 24 May 1934. His pioneering research on nucleic acids in the nineteen-sixties and early seventies encouraged the development of molecular biology in Croatia. Professor Kućan attracted many graduates in chemistry, biology and medicine to join his laboratories where they could grasp the early methodologies of molecular biology and where they got stimulated to further various aspects of the field.

Professor Kućan has reached the age of seventy - an occasion to review his *curriculum*, his achievements, as well as his widely penetrating influence on molecular life sciences in our scientific and academic community.

In 1953, after seven years of Kaptol primary school and five years of high school (»The 2nd Grammar School for Boys«), Željko Kućan started his studies in Chemistry (specialty: Biochemistry) in the Department of Chemistry, Faculty of Science, University of Zagreb. He was granted a student scholarship from the Ruđer Bošković Institute and after graduating in 1958 (Degree thesis: »*Isolation of the active component from* Monilia laxa«, supervised by Professor K. Balenović) Željko Kućan joined the Department of Radiobiology of the Ruđer Bošković Institute to work under supervision of Professor B. Miletić on his doctoral thesis »*Study of the disturbed biosynthesis of DNA upon X-irradiation*«. In 1964, he obtained his PhD in Chemistry from the University of Zagreb.

In the very early years of his career Željko Kućan spent two years in the Laboratory of the Nobel laureate Fritz Lipmann at the Rockefeller Institute in New York to pursue his interest in protein biosynthesis. He returned to New York on two subsequent occasions, first in 1969–1972 to the School of Medicine, Department of Biochemistry, as research fellow in the Laboratory of R. W. Chambers, and then as a visiting professor in the same Department for two academic years, 1977–1979.

Željko Kućan remained affiliated to the Ruđer Bošković Institute from 1958 to 1983. During that period he held several leading positions within the Institute: Head of the Department of Organic Chemistry and

Biochemistry, Secretary to the Scientific Board of the Institute, Head of the Laboratory for Biosynthesis, which was founded by Kućan himself in 1972.

In 1972 Željko Kućan started lecturing on Biochemistry at the Faculty of Science, and in 1983 he joined the teaching staff of the Chemistry Department, Department of Organic Chemistry and Biochemistry, as full Professor of Biochemistry.

He served as Chair of the Chemistry Department from 1985 to 1988, and Head of the Organic Chemistry and Biochemistry Division from 1988. In 1995, when the Division split, Professor Kućan headed the newly established Biochemistry section until 2000. From 1990 to 1994, he was the Dean of the Faculty of Science, and from 1995 to 2000 the Vice-dean for Faculty investments. For many years, Kućan was also a member of the Teaching and Curricula Committee of the University of Zagreb, and while serving as Dean, a member of the University Senate.

Professor Kućan led and coordinated many scientific projects, including the first Croatian project in genetic engineering that brought together scientists from PLIVA, Ruđer Bošković Institute, Faculty of Science and Faculty of Food Technology and Biotechnology. He produced some 130 publications, many of them published in prestigious scientific journals, several of which were abundantly cited in the international scientific literature. The enclosed list of ten selected papers provides a chronological outline of the scope of Kućan's scientific interest throughout his outstanding academic career.

Yet, Željko Kućan is not only an enthusiastic life scientist, but has proved to be a dedicated and well-liked teacher of Biochemistry. In order to support his students, he has translated Stryer's textbook of Biochemistry, 2nd edition. Besides teaching undergraduates, he delivered various biochemistry courses at the graduate level for biochemists, medical biochemists, molecular biologists, chemists, biophysicists, microbiologists and philosophers of science. Kućan taught not only in Zagreb, but also in Split, Dubrovnik and Ljubljana. His lectures inspired many young students to choose molecular biology as a lifetime career. Indeed, Kućan's courses and laboratories cradled many of the leading molecular biologists and biochemists of Croatian universities and research institutions (Professor Vera Gamulin, Professor Maja Pavela-Vrančić, Dr. Miroslav Plohl, Dr. Ivica Rubelj, the late Professor Željko Trgovčević, Professor Đurđica Ugarković, and Professor Ivana Weygand-Đurašević – to name just a few), as well as those who pursue their successful careers abroad (*e.g.*, Dr. Nenad Ban, Dr. Tanja Naranča, Dr. Miroslava Protić, Dr. Sanja Sever). Professor Kućan has participated in editorial boards of *Croatica Chemica Acta* and of *Periodicum Biologorum* for many years, and has contributed many articles to the editions of *Croatian Encyclopaedia.*

Being devoted to the promotion of molecular life sciences, he encouraged the foundation and activities of several scientific societies and was repeatedly elected their president (*e.g.*, Croatian Biophysical Society and Croatian Biochemical Society). He sat on the organisational, scientific, and advisory boards of numerous local, regional, and international meetings and courses focused on biochemistry, biophysics, molecular genetics, and molecular life sciences in general. It was Kućan that introduced the Croatian Society of Biochemistry and Molecular Biology into European and international organisations FEBS and IUBMB.

Though retired as member of the Faculty staff, Professor Kućan is still engaged in several projects promoting life sciences and protecting the natural heritage. Since 2003, as a prominent Croatian expert in molecular life sciences, Professor Kućan has been a member of Standing Committee for Biological and Environmental Sciences of the European Science Foundation.

Kućan's work has been recognised and honoured in many ways. More notably, in 1977 he became an associate member of the Croatian Academy of Sciences and Arts (former Yugoslav Academy of Sciences and Arts) to be promoted to full membership in 1991; in 1991 Professor Kućan received the state award for scientific achievements (»Ruđer Bošković« award), and was honoured by the Order of »Danica Hrvatska«. In 2005, he received the life-achievement award for natural sciences given by the Croatian Parliament.

Paying tribute to its most devoted and distinguished member, the Croatian Society of Biochemistry and Molecular Biology has invited most prominent former students of Professor Kućan to lecture at the jubilee Symposium in honour of their teacher's 70th birthday.

Ten Selected Papers Representing Chronologically the Scope of Scientific Interest of Professor Kućan

1. B. Miletić, Ž. Kućan, and Lj. Zajec,
"Synthesis of DNA in X-irradiated *Escherichia coli* B", *Biochem. Biophys. Res. Commun.* **4** (1961) 343–347.

2. B. Miletić, Ž. Kućan, and Lj. Šašel,
"Synthesis of deoxyribonucleic acid in X-irradiated bacteria treated with chloramphenicol", *Nature* **202** (1964) 311–312.

3. Ž. Kućan and F. Lipmann,
"Differences in chloramphenicol sensitivity of cell-free amino acid polymerization systems", *J. Biol. Chem.* **239** (1964) 516–520.

4. Ž. Kućan,
"Inactivation of Isolated *Escherichia coli* Ribosomes by Gamma Irradiation", *Radiat. Res.* **27** (1966) 229–236.

5. Ž. Trgovčević and Ž. Kućan,
"Preferential degradation of gamma-irradiated deoxyribonucleic acid by crude extract of *Escherichia coli*.", *Int. J. Radiat. Biol.* **12** (1967) 193–194.

6. Ž. Kućan, J. N. Herak, and I. Pečevsky-Kućan,
"Functional inactivation and appearence of breaks in RNA chains caused by gamma-irradiation of *E. coli* ribosomes.", *Biophys. J.* **11** (1971) 237–251.

7. Ž. Kućan, K. A. Freude, I. Kućan, and R. W. Chambers,
"Aminoacylation of bisulfite-modified yeast tyrosine tRNA", *Nat. New Biol.* **232** (1971) 177–179.

8. V. Nöthig-Laslo, I. Weygand-Đurašević, and Ž. Kućan,
"Structural changes of yeast $tRNA^{Tyr}$ caused by the binding of divalent ions in the presence of spermine", *J. Biomol. Struct. Dyn.* **2** (1985) 941–951.

9. T. Naranđa and Ž. Kućan,
"Effect of spermine on the efficiency and fidelity of the codon-specific binding of tRNA to the ribosomes", *Eur. J. Biochem.* **182** (1989) 291–297.

10. I. Gruić-Sovulj, H.-C. Lüdemann, F. Hillenkamp, I. Weygand-Đurašević, Ž. Kućan and J. Peter-Katalinić,
"Detection of non-covalent tRNA/aminoacyl-tRNA synthetase complexes by matrix-assisted laser desorption/ionisation mass spectrometry", *J. Biol. Chem.* **272** (1997) 32084–32091.

Mirna Flögel