



Engineering Power

BULLETIN OF THE CROATIAN ACADEMY OF ENGINEERING

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Editor-in-Chief's Word

Dear Readers,

One of the essential tasks of the Croatian Academy of Engineering as an association of prominent Croatian scientists and teachers in the fields of technological and biotechnological sciences as well as a number of international members, is publishing achievements of the Croatian scientists in the fields of scientific research, innovation and other technical accomplishments.

Having that goal in mind, the Academy, among other activities, continuously publishes its bulletins „Tehničke znanosti“ in Croatian and „Engineering Power“ in English, respectively.

I am particularly happy that the efforts of our Academy in that respect include cooperation with other scientific institutions in Croatia. This issue of „Tehničke znanosti“ / „Engineering Power“ is a fine example of our cooperation with the Croatian Academy of Medical Sciences. We are also very proud of this cooperation as an example of scientific interdisciplinarity.

I believe that you will read with interest this issue dedicated to the life and work of the Croatian Nobel Prize winner **Leopold Ružička**, and gain new insights on this great man of the Croatian science.

Editor-in-Chief

Vladimir Androžec, President of the Croatian Academy of Engineering



CAETS

Editor's Word



As it has been announced in Editorial of the first issue of „Tehničke znanosti / Engineering Power“ published in new format (Vol. 19(1) 2015), subsequent releases of the journal will offer a number of thematic papers focused on selected topics that will be edited by the specially invited Guest Editor. In most cases, such invited topics will be selected to reflect current scientific production of the Academy members. However, our editorial goal is also to pay tribute to remarkable scientists in Croatian history, offering special editions devoted to their exceptional achievements.

With this aim in view, I am especially proud to announce selected topic of this issue that focuses on the first Croatian Nobel Prize winner, Prof. **Leopold Ružička**, in the year of the 40th anniversary of his death. His work inspires researchers to current days, not only in the field of synthetic organic chemistry, but also in a number of related fields of engineering, medicine and applied sciences. The fact that several research projects financially supported by the Croatian Science Foundation are also based - directly or indirectly - on the scientific legacy of **Leopold Ružička** reveals how deep his work is rooted in the current research activities of the Croatian scientists. The heroic town of Vukovar - the birthplace of Prof. **Ružička** - is especially proud of its distinguished citizen: a college of applied sciences opened in the year 2005 bears his name and traditional scientific conference „Ružičkini dani“ („Ružička Days“) is organized in Vukovar on the annual basis.

These issues, among the others that reflect extraordinary scientific and personal profile of Prof. **Ružička**, will be covered by the string of papers under umbrella of this edition's selected topic. The Guest Editor is a distinguished member of our Academy, Prof. Emer. Zlatko Kniewald, Ph. D., Secretary of HATZ Department of Bioprocess Engineering.

Editor

Zdravko Terze, Vice-President of the Croatian Academy of Engineering

Welcome Letter from Guest Editor



Distinguished Readers,

The Croatian Academy of Engineering has been established in 1993 and since then its activity is recognized in Croatia and worldwide within the international associations of CAETS and Euro-CASE. A great part of its activity since 2006 is oriented towards promotion of Croatian scientists worldwide, known for their discoveries recognized by the international scientific community. Therefore we have celebrated the 150th birth anniversary of Nikola Tesla in 2006, 150th birth anniversary of Andrija Mohorovičić in 2007, 300th birth anniversary of Ruđer Bošković in 2011, and now we can proudly say a few words about the first Croatian Nobel Prize winner, Prof.

Leopold Ružička, in the year of his 40th death anniversary. In this edition of „Engineering Power“ you can find some commonly known, but also unknown facts about the life and work of Prof. **Ružička**.

This edition of „Engineering Power“ is prepared in English. In the last 15 years we have been remembering Prof. **Ružička** annually through scientific meetings called „Ružička Days“ predominantly held in Vukovar, his birthplace.. This year the 16th Ružička's Days will be held. Today a polytechnics in Vukovar is named after Prof. **Ružička**, a fact which shows how important he still is to the people who live there.

I am personally honored to be elected the Guest Editor by the Presidency of the Croatian Academy of Engineering, considering the fact that my entire published scientific research is based on the androgen hormone metabolism, which I started in 1969 at The Institute of Pharmacology, University of Milano, Italy, under the leadership of Prof. Luciano Martini. A part of my research interest was also a study of the influence of insecticides on steroid hormone mechanisms in the reproduction of vertebrates.

The paper published in The Medical Journal in 1940 describes all Prof. **Ružička's** discoveries from sexual hormones to insecticides at that time and this research has been continued in Croatia up until today.

Thank you for your attention.

Guest Editor

Zlatko Kniewald, Secretary of HATZ Department of Bioprocess Engineering