



EDITOR-IN-CHIEF'S WORD

In this issue the HATZ Bulletin presents scientific and professional achievements of our members too, especially in important areas of the development of the Croatian and world society. That is why we have asked our member Prof. Stela Jokić PhD, full professor at the Faculty of Food Technology of the University J.J. Strossmayer Osijek, to present in this issue the current considerations and works of her team in the field of food industry as an essential part of human survival. I believe that the contributions presented in this issue will be useful and interesting for the readers to gain new insights about this field.

Editor-in-Chief

Vladimir Androćec, President of the Croatian Academy of Engineering



EDITOR'S WORD

Dear readers,

It is my pleasure to present in this issue of the HATZ-Bulletin Engineering Power the continuation of our efforts to present the activities of the research groups on various topics carried out by members of the Academy from various Croatian universities.

The guest editor of this issue is Stela Jokić, Full Professor at the Faculty of Food Technology, Josip Juraj Strossmayer University of Osijek and Associate Member of the Academy in the Department of Bioprocess Engineering. The topic of the issue relates to current trends in food science and technology.

Editor

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



FOREWORD

Dear Readers,

Never before have there been so many demands on the food industry as today. On the one hand, in addition to the production of safe and tasty food worldwide, the production of “functional food” or food that has a positive effect on human health is in the focus of the development of new products in the food industry. The production of food/products with added value in terms of maintaining the health and improved consumers’ diets and promotion of good health and nutrition is a must.

On the other hand, an important aspect today is “zero-waste approach” and a high interest in the possible use and application of different by-products, especially from the food industry. By-product utilization has become one of the fastest growing areas of research because it represents a cheap and nutritiously highly valuable raw material, along which efficient waste management is achieved through their use in subsequent industrial processes. Food by-products often contain significantly high amounts of health-promoting compounds (bioactive components, vitamins, minerals, etc.) due to which they represent a highly valuable raw material for the production and development of new products.

For all the above reasons, scientists work with the food industry to solve the problems related to the consumption of unhealthy foods and to produce new products with increased nutritional value, while achieving a “zero waste” approach.

Bearing in mind that this is a very dynamic and vast area, and although the authors of this issue have made great efforts to present the latest trends in this field, only a few of the areas are presented. This special issue on “Trends in food science and technology” therefore highlights some of the current challenges facing the food industry and trends towards their solution. Topics include new or novel raw materials including bioactive compounds such as marine macroalgae as “superfoods” due to their nutritional value; some innovations in the food industry; the use of waste as a potential source of functional food ingredients; and finally three-dimensional (3DP) food printing as a potential solution to further develop current food processing techniques.

I would like to thank all the authors who contributed to this special issue and to my colleague Prof. Đurđica Ačkar PhD for her support and help in collecting the papers.

I hope you will enjoy reading these articles!

Yours sincerely

Guest-Editor

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