EDITOR-IN-CHIEF'S WORD

Dear Readers,

As engineers, we stand on the brink of a transformative era, where unprecedented advancements in artificial intelligence (AI) are reshaping the foundation of our disciplines and redefining the way we approach challenges.

In this issue of Engineering Power, we are proud to showcase four thought-provoking articles that delve into AI's role in advancing engineering practices. These works highlight diverse applications, from human-robot interaction to AI-supported innovations in industrial and food technologies, underscoring the immense interdisciplinary potential of AI. We trust that these contributions will inspire meaningful dialogue and foster collaboration across the engineering community.

Editor-in-Chief
Vedran Mornar, President of the Croatian Academy of Engineering

EDITOR'S WORD

Dear readers,

I am pleased to present the new issue of Engineering Power journal, edited by Prof. Želimir Kurtanjek, PhD. In four articles, we present the possible applications of artificial intelligence using examples from mechanical engineering, chemical engineering and food technology. I hope you enjoy reading them.

Editor
Bruno Zelić, Vice-President of the Croatian Academy of Engineering

FOREWORD

Dear readers,

As we all know, regardless of our specific engineering expertise, AI has transformative power changing on how we do our daily work, and we all are aware that in near future our professions will undergo fundamental changes. Traditionally, engineering science and practice are based on human knowledge of sophisticated applications of laws of nature and logic (mathematics, physics, chemistry) focused on individual specific tasks, regardless how complex and big is the task. However, due to complexity of global digitalization and anthropogenic effects on Earth climate, our world has deeply changed requiring knew machine AI assisted knowledge. With the unprecedented speed of AI development there is a growing recognition of the need for ethical AI, ensuring that AI tools are developed and used responsibly for the world wide population. In spite of concerns, AI is not just a phase; it's here to stay and will continue to shape our lives in profound ways. This issue of Engineering Power brings four articles which show research and application of AI in human and robot communication, soft sensing in petrochemical synthesis plant, application of Bayes causal network for AI modelling of Tennessee-Eastman process, and a manuscript on AI supported computer vision in food technologies. Hopefully, this publications will motivate our readers for our national and also international interdisciplinary cooperation.

Guest-Editor
Želimir Kurtanjek, University of Zagreb, Faculty of Food Technology and Biotechnology (retired)