

<i>Mech. Eng. Sci. J.</i>	Vol.	No.	pp.	Skopje
	41	1	1–74	2023
<i>Маш. инж. науч. спис.</i>	Год.	Број	стр.	Скопје

**MECHANICAL ENGINEERING – SCIENTIFIC JOURNAL
МАШИНСКО ИНЖЕНЕРСТВО – НАУЧНО СПИСАНИЕ**

Published by
Faculty of Mechanical Engineering, Ss. Cyril and Methodius University in Skopje, North Macedonia
Издава
Машински факултет, Универзитет „Св. Кирил и Методиј“ во Скопје, Северна Македонија

Published twice yearly – Излегува два пати годишно

INTERNATIONAL EDITORIAL BOARD – МЕЃУНАРОДЕН УРЕДУВАЧКИ ОДБОР

Slave Armenski (Faculty of Mechanical Engineering, Ss. Cyril and Methodius University in Skopje, Skopje, North Macedonia), **Aleksandar Gajić** (Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia), **Čedomir Duboka** (Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia), **Maslina Daruš** (Faculty of Science and Technology, University Kebangsaan Malaysia, Bangi, Malaysia), **Robert Minovski** (Faculty of Mechanical Engineering, Ss. Cyril and Methodius University in Skopje, Skopje, North Macedonia), **Wilfried Sihn** (Institute of Management Science, Vienna University of Technology, Vienna, Austria), **Ivan Juraga** (Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, Zagreb, Croatia), **Janez Kramberger** (Faculty of Mechanical Engineering, University of Maribor, Maribor, Slovenia), **Karl Kuzman** (Faculty of Mechanical Engineering, University of Ljubljana, Ljubljana, Slovenia), **Clarisse Molad** (University of Phoenix, Phoenix, Arizona, USA), **Todor Neshkov** (Faculty of Mechanical Engineering, Technical University of Sofia, Sofia, Bulgaria), **Zlatko Petreski** (Faculty of Mechanical Engineering, Ss. Cyril and Methodius University in Skopje, Skopje, North Macedonia), **Miroslav Plančak** (Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia), **Remon Pop-Iliev** (Faculty of Engineering and Applied Science, University of Ontario, Institute of Technology, Oshawa, Ontario, Canada), **Predrag Popovski** (Faculty of Mechanical Engineering, Ss. Cyril and Methodius University in Skopje, Skopje, North Macedonia), **Dobre Runčev** (Faculty of Mechanical Engineering, Ss. Cyril and Methodius University in Skopje, Skopje, North Macedonia), **Aleksandar Sedmak** (Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia), **Ilija Ćosić** (Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia), **Rolf Steinhilper** (Faculty of Engineering Science, University of Bayreuth, Bayreuth, Germany)

Editor in Chief Одговорен уредник
Prof. Mite Tomov, Ph.D. **Проф. д-р Мите Томов**
Co-editor in Chief Заменик одговорен уредник
Assoc. prof. Taško Rizov, Ph.D. **Вон. проф. д-р Ташко Ризов**
Secretaries Секретари
Assis. Ph.D. Marija Lazarević **Асис. д-р Марија Лазаревиќ**
Doc. Simona Domazetovska, Ph.D. **Доц. д-р Симона Домазетовска**

Proof-reader Коректор
Alena Georgievska **Алена Георгиевска**

Technical editor Технички уредник
Blagoja Bogatinoski **Благоја Богатиноски**

UDC: "St. Kliment Ohridski" Library – Skopje УДК: НУБ „Св. Климент Охридски“ – Скопје

Copies: 300 Тираж: 300

Price: 520 denars Цена: 520 денари

Address Адреса
Faculty of Mechanical Engineering **Машински факултет**
(Mechanical Engineering – Scientific Journal) (Машинско инженерство – научно списание)

Editor in Chief Одговорен уредник
P.O.Box 464 пошт. факс 464
МК-1001 Skopje, Republic of North Macedonia МК-1001 Скопје, Република Северна Македонија

Mech. Eng. Sci. J. is indexed/abstracted in INIS (International Nuclear Information System)
www.mf.ukim.edu.mk