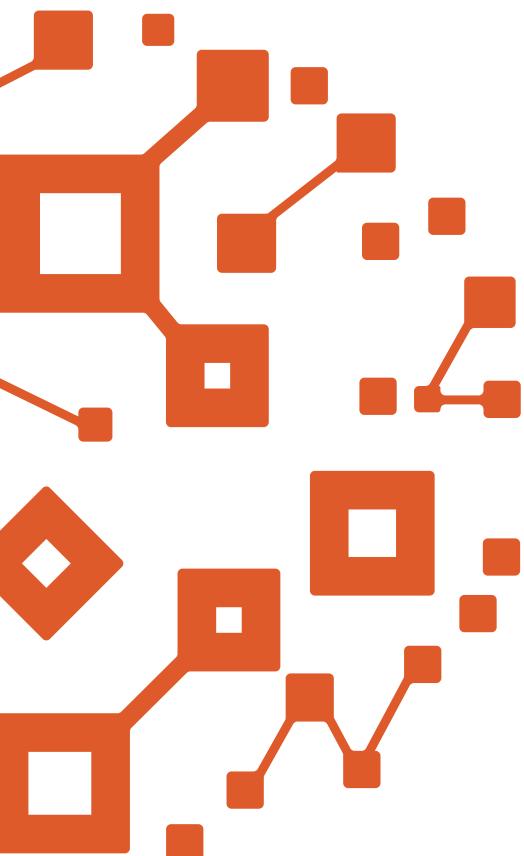




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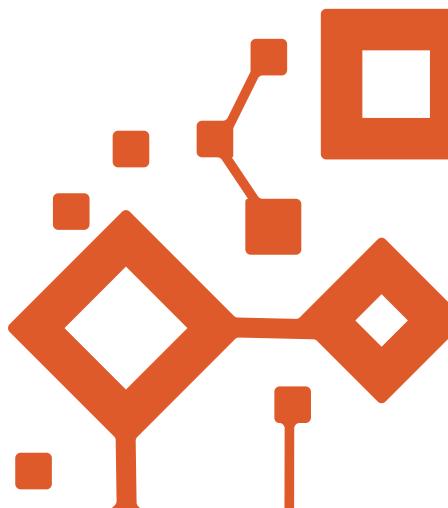
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КОНФЕРЕНЦИЈА 2024

27-28.09 | Машински факултет-Скопје

ПРОГРАМА

20 ГОДИНИ МЕХАТРОНИКА





Универзитет „Св. Кирил и Методиј“ во Скопје
Машински факултет - Скопје



RE-MEMBER 2024

RE-MEMBER 2024 - Претседавач на конференцијата / Conference Chair:

Проф. д-р Виктор Гаврилоски, УКИМ / Prof. Dr.sc. Viktor Gavriloski, UKIM

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Проф. д-р Иван Мицкоски, УКИМ / Prof. Dr.sc. Ivan Mickoski

Вон. проф. д-р Јована Јованова, TU-Delft / Assoc. prof. Dr.sc. Jovana Jovanova

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Доц. д-р Маја Аначкова, УКИМ / Assis. prof. Dr.sc. Maja Anachkova

Асис. м-р Дејан Шишковски, УКИМ / Assis. M.sc. Dejan Shishkovski

Асис. м-р Дамјан Пециоски, УКИМ / Assis. M.sc Damjan Pecioski



27.09.2024 (петок)							
8:30	9:00	Регистрација на учесници					
9:00	9:15	Отварање на конференција					
Сесија 1. Презентација на научно-истражувачки и апликативни трудови (трудови од истражувачи на Машинскиот факултет во Скопје)							
9:15	11:00	1.1. Presenter: Dejan Shishkovski Modeling and characterizing of electrodynamic shaker ESE 211	1.2. Presenter: Aleksandar Argilovski Sensor-aided process impact on operators' learning rates in assembly manufacturing	1.3. Presenter: Vasko Changoski Development of autonomous multifunctional vehicle integrated with bio-inspired SMA actuated grasper	1.4. Presenter: Sara Kuzmanoska Harnessing power electronics: opportunities for mechatronics		
		1.5. Presenter: Ana Jovchevska Methodology for lattice structure integration in sports shoe sole design	1.6. Presenter: Radmila Koleva Raspberry pi controlled robotic gripper for Mitsubishi SCARA robotic arm	1.7. Presenter: Damjan Pecioski Development of low-cost MEMS microphone array for sound localization in urban environments	1.8. Presenter: Monika Stoilevska Modeling and simulation of mechatronic systems using Simscape		
11:00	11:45	Покането предавање: Развој на мехатрониката 2004-2024 - проф. д-р Иван Мицкоски					
11:45	12:15	Кафе пауза					
Сесија 2. Презентација на научно-истражувачки и апликативни трудови (апликативни трудови од инженерите во индустријата)							
12:15	14:00	2.1. Presenter: Vojdan Andonov - RES Application of PLC in the management of battery systems for electrical energy storage	2.2. Presenter: Marko Chorbikj Selected concepts and studies on multi-axis additive Manufacturing	2.3. Presenter: Filip Andreski - Feroinvest Automation, management and monitoring of small hydroelectric plants through a SCADA system	2.4. Presenter: Dejan Nedelkovski How to Mechatronics		
		2.5. Presenter: Filip Tashevski - Brako Systems and control of sweeping machine GM720Ze	2.6. Presenter: Ognen Tuteski Enhancing mold insert manufacturing with stereolithography: an additive approach	2.7. Presenter: Ema Vasileska In-situ implementation of optical emission spectroscopy for process monitoring in metal additive manufacturing	Discussion		
14:00	15:00	Пауза за ручек					



27.09.2024 (петок)

Сесија 3. Презентација на научно-истражувачки и апликативни трудови
(трудови на меѓународни истражувачи)

15:00	17:15	3.1. Presenter: Ana A.C. Vasconcelos A graded metamaterial-based cushion for broadband noise mitigation of impact-driven offshore monopiles	3.2. Presenter: Qianyi Chen Model-based design strategy for mechanically intelligent building blocks	3.3. Presenter: Amy Thomas Shock modelling using restoring force surfaces	3.4. Presenter: Chamod Wijesinghe Implementing a kiss and ride base autonomous transshipment system for interterminal barges
		3.5. Presenter: Jovana Jovanova Mechelligence: Mechanically intelligent structures adaptable by design	3.6. Presenter: Christof van Zijl Predictions of responses and wave forces for coupled fluid-structure systems using inverse methods	3.7. Presenter: Lazar Bochvarov Laser craniotomy system for increased patient safety and comfort in awake neurosurgery	3.8. Presenter: Zoran Cenev Manipulation of non-magnetic multiscale objects using magnetic fields at the air-magnetic liquid interface
17:15	17:30	Кафе пауза			
Сесија 4. Презентација на научно-истражувачки и апликативни трудови (трудови, проекти и истражувања на нашите студенти)					
17:30	19:00	4.1. Presenter: Ana Kochovski Study and experimental characterization of shark skin stiffness and morphology	4.2. Presenter: Valdet Neziri Design and development of a solar-powered autonomous robot mower	4.3. Presenter: Antonio Cvetanovski Design and development of physical model of safety system in industrial environment using LabVIEW	4.4. Presenter: Matej Milosievska Sustainable development in the field of additive manufacturing: creating a device for recycling pet into filament for 3D printing using pultrusion
		4.5. Presenter: Tijana Kostovska Design of control and signal measurement systems for continuous positive airway pressure (CPAP) machine	4.6. Presenter: Elena Nakova Methodology development and performance testing of an acoustically isolated booth using the ISO 23351-1:2020 standard	4.7. Presenter: Nenad Trajanovski Design of a mobile robotic manipulator	4.8. Presenter: Damjan Vasilevski Concept development of mechatronics self-balancing motorcycle



Универзитет „Св. Кирил и Методиј“ во Скопје
Машински факултет - Скопје



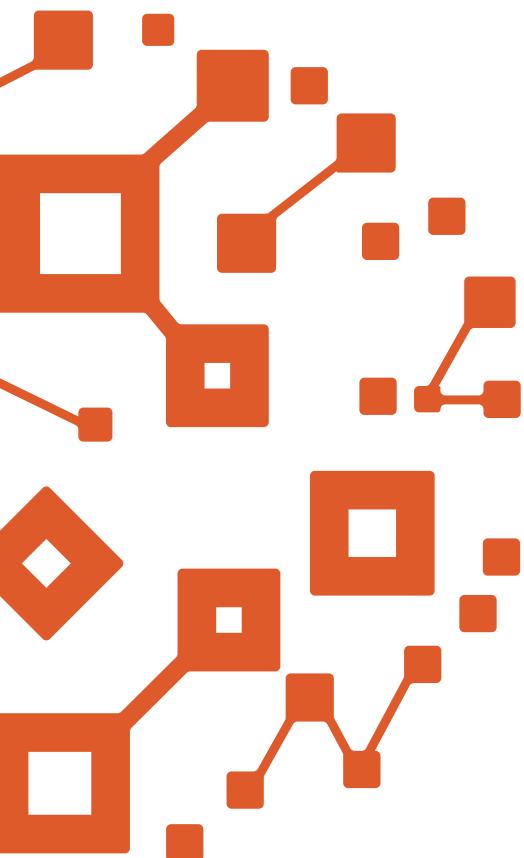
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28.09.2024 (сбота)

		28.09.2024 (сбота)	
17:00	17:30	Регистрација на учесници	
17:30	18:15	Тема за панел дискусија: Патеки за соработка помеѓу академијата и индустријата – потреби за реформи во високото образование Панелисти: Проф. д-р Весна Јаневска – Министер за образование и наука Проф. д-р Биљана Ангелова – Ректор на УКИМ Проф. д-р Коcho Анѓушев – Редовен професор на МФС и сопственик на Фероинвест група м-р Виктор Мизо – Генерален директор на КОСТАЛ Македонија	
18:20	19:00	Тема за панел дискусија: Соработка помеѓу академијата и индустријата преку применета наука Панелисти: Проф. д-р Валентина Гечевска – Редовен професор на МФС и проректор за наука на УКИМ Вон проф. д-р Јована Јованова – Вон. професор на TU Delft – Холандија м-р Горан Антевски – Генерален директор на Раде Кончар ТЕП м-р Лазар Бочваров – Истражувач на Fraunhofer ILT – Германија д-р Марко Чорбик – Раководител на технички развој, во Designo s.r.l.- Италија	
19:00	19:30	Пауза за дискусија и вмрежување	
19:30	20:30	СВЕЧЕНА АКАДЕМИЈА 20 години студии по мехатроника „RE-MEMBER 2024“ Обраќања: Проф. д-р Златко Петрески – Декан на МФС Проф. д-р Биљана Ангелова – Ректор на УКИМ Проф. д-р Весна Јаневска – Министер за образование и наука Проф. д-р Виктор Гаврилоски – Раководител на Институтот за механика	
20:30	22:00	КОКТЕЛ	
22:00	00:00	АЛУМНИ ЗАБАВА И ДРУЖЕЊЕ	



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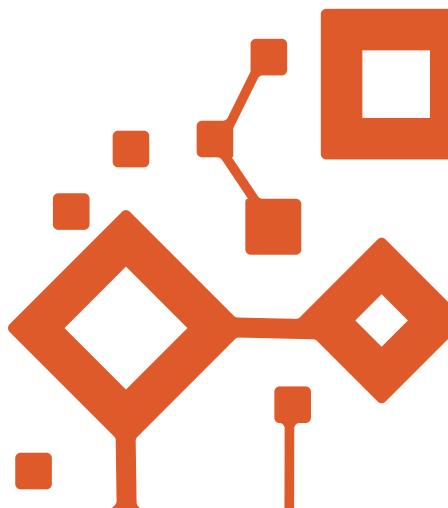
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КОНФЕРЕНЦИЈА 2024

27-28.09 | Машински факултет-Скопје

Листа на трудови

20 ГОДИНИ МЕХАТРОНИКА





Петок 27ми Септември / Friday 27th September

Сесија 1 (9:15-11:00ч). Презентација на научно-истражувачки и апликативни трудови (трудови од истражувачи на Машинскиот факултет во Скопје)

Session 1 (9:15-11:00h). Presentation of scientific research and applied research papers (papers by researchers from the Faculty of Mechanical Engineering in Skopje)

1.1. Dejan Shishkovski, Damjan Pecioski, Anastasija Ignjatovska, Maja Anachkova, Zlatko Petreski

Presenter: Dejan Shishkovski

Modeling and characterizing of electrodynamic shaker ESE 211

1.2. Aleksandar Argilovski, Bojan Jovanoski

Presenter: Aleksandar Argilovski

Sensor-aided process impact on operators' learning rates in assembly manufacturing

1.3. Vasko Changoski, Simona Domazetovska Markovska, Jovana Jovanova

Presenter: Vasko Changoski

Development of autonomous multifunctional vehicle integrated with bio-inspired SMA actuated grasper

1.4. Sara Kuzmanoska

Presenter: Sara Kuzmanoska

Harnessing power electronics: opportunities for mechatronics

1.5. Ana Jovchevska, Ile Mircheski

Presenter: Ana Jovchevska

Methodology for lattice structure integration in sports shoe sole design

1.6. Radmila Koleva, Darko Babunski, Emil Zaev, Michał Kryska

Presenter: Radmila Koleva

Raspberry pi controlled robotic gripper for Mitsubishi SCARA robotic arm

1.7. Damjan Pecioski, Simona Domazetovska Markovska, Viktor Gavriloski, Maja Anachkova, Anastasija Ignjatovska

Presenter: Damjan Pecioski

Development of low-cost MEMS microphone array for sound localization in urban environments

1.8. Monika Stoilevska

Presenter: Monika Stoilevska

Modeling and simulation of mechatronic systems using Simscape



Покането предавање (11:00-11:45ч):

Развој на мехатрониката 2004-2024 - проф. д-р Иван Мицкоски

Invited talk (11:00-11:45h):

Mechatronic engineering development 2004-2024 – prof. Dr.sc Ivan Mickoski

Сесија 2 (12:15-14:00ч). Презентација на научно-истражувачки и апликативни трудови (апликативни трудови од инженерите во индустријата)

Session 2 (12:15-14:00h). Presentation of scientific research and applied research papers (applied research papers based on practical engineering concepts from industry)

2.1. Vojdan Andonov - RES

Presenter: Vojdan Andonov - RES

Application of PLC in the management of battery systems for electrical energy storage

2.2. Marko Chorbikj

Presenter: Marko Chorbikj

Selected concepts and studies on multi-axis additive Manufacturing

2.3. Filip Andreski - Feroinvest

Presenter: Filip Andreski - Feroinvest

Automation, management and monitoring of small hydroelectric plants through a SCADA system

2.4. Dejan Nedelkovski

Presenter: Dejan Nedelkovski

How to Mechatronics

2.5. Filip Tashevski - Brako

Presenter: Filip Tashevski - Brako

Systems and control of sweeping machine GM720Ze

2.6. Ognen Tuteski

Presenter: Ognen Tuteski

Enhancing mold insert manufacturing with stereolithography: an additive approach

2.7. Ema Vasileska, Mite Tomov, Valentina Gecevska

Presenter: Ema Vasileska

In-situ implementation of optical emission spectroscopy for process monitoring in metal additive manufacturing



Сесија 3 (15:00-17:15ч). Презентација на научно-истражувачки и апликативни трудови (трудови на меѓународни истражувачи)

Session 3 (15:00-17:15h). Presentation of scientific research and applied research papers (papers by international researchers)

3.1. Ana Carolina Azevedo Vasconcelos, Dingena Schott, Jovana Jovanova

Presenter: Ana A.C. Vasconcelos

A graded metamaterial-based cushion for broadband noise mitigation of impact-driven offshore monopiles

3.2. Qianyi Chen, Jovana Jovanava

Presenter: Qianyi Chen

Model-based design strategy for mechanically intelligent building blocks

3.3. Amy Thomas, Carey Walters, Jovana Jovanova, Apostolos Grammatikopoulos, Kirk Green

Presenter: Amy Thomas

Shock modelling using restoring force surfaces

3.4. Chamod Wijesinghe, Jovana Jovanova

Presenter: Chamod Wijesinghe

Implementing a kiss and ride base autonomous transshipment system for interterminal barges

3.5. Jovana Jovanova

Presenter: Jovana Jovanova

Mechalligence: Mechanically intelligent structures adaptable by design

3.6. C. Van Zijl, J. Jovanova, A. Grammatikopoulos

Presenter: Christof van Zijl

Predictions of responses and wave forces for coupled fluid-structure systems using inverse methods

3.7. Lazar Bochvarov

Presenter: Lazar Bochvarov

Laser craniotomy system for increased patient safety and comfort in awake neurosurgery

3.8. Zoran Cenev

Presenter: Zoran Cenev

Manipulation of non-magnetic multiscale objects using magnetic fields at the air-magnetic liquid interface



Сесија 4 (15:30-19:00ч). Презентација на научно-истражувачки и апликативни трудови (трудови, проекти и истражувања на нашите студенти)

Session 4 (15:30-19:00h). Presentation of scientific research and applied research papers (research papers and projects from mechatronic students)

4.1. Ana Kochovski, Jovana Jovanova

Presenter: Ana Kochovski

Study and experimental characterization of shark skin stiffness and morphology

4.2. Valdet Neziri, Dame Korunoski

Presenter: Valdet Neziri

Design and development of a solar-powered autonomous robot mower

4.3. Antonio Cvetanoski, Maja Anachkova

Presenter: Antonio Cvetanoski

Design and development of physical model of safety system in industrial environment using LabVIEW

4.4. Matej Milosievski, Andreja Popovikj, Simona Domazetovska, Maja Anachkova, Boban Kusigerski, Ognen Tuteski

Presenter: Matej Milosievski

Sustainable development in the field of additive manufacturing: creating a device for recycling pet into filament for 3D printing using pultrusion

4.5. Tijana Kostovska, Kliment Mladenovski, Dejan Shishkovski, Viktor Gavriloski, Zlatko Petreski

Presenter: Tijana Kostovska

Design of control and signal measurement systems for continuous positive airway pressure (CPAP) machine

4.6. Elena Nakova, Ivica Stojanovski, Haritina Sakova, Simona Domazetovska Markovska, Maja Anachkova

Presenter: Elena Nakova

Methodology development and performance testing of an acoustically isolated booth using the ISO 23351-1:2020 standard

4.7. Nenad Trajanoski, Simona Domazetovska Markovska

Presenter: Nenad Trajanovski

Design of a mobile robotic manipulator

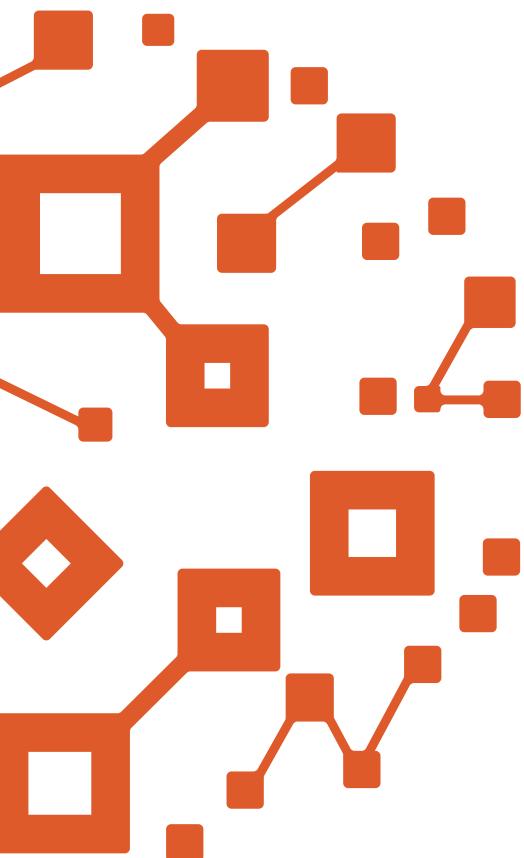
4.8. Damjan Vasilevski, Damjan Pecoski, Simona Domazetovska Markovska

Presenter: Damjan Vasilevski

Concept development of mechatronics self-balancing motorcycle



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20 YEARS OF MECHATRONICS

